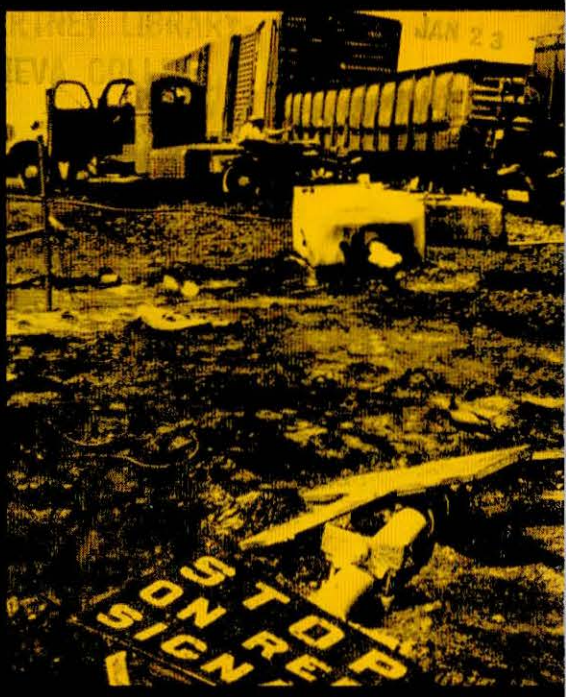
WHY JAPAN WILL EXTEND THE NEW TOKAIDO LINE. p. 24

JANUARY 23, 1967

RAILWAY AGE

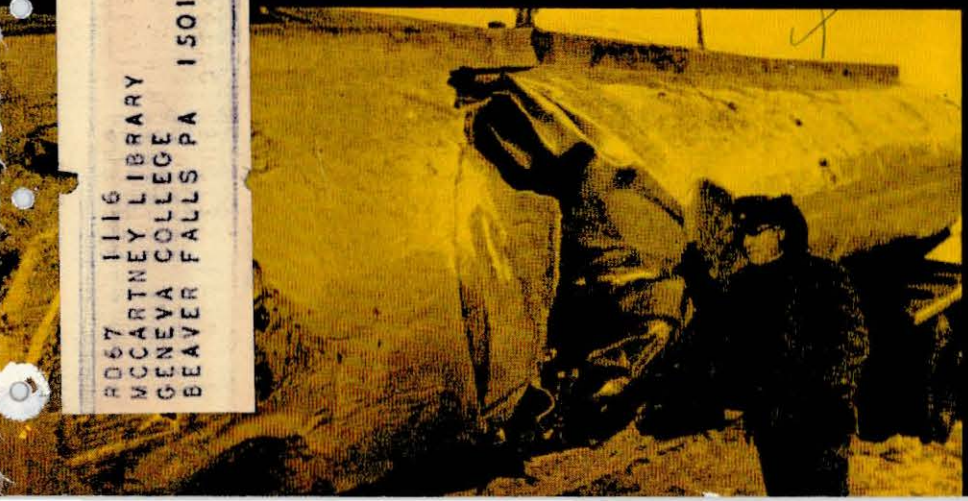
THE TRANSPORTATION WEEKLY

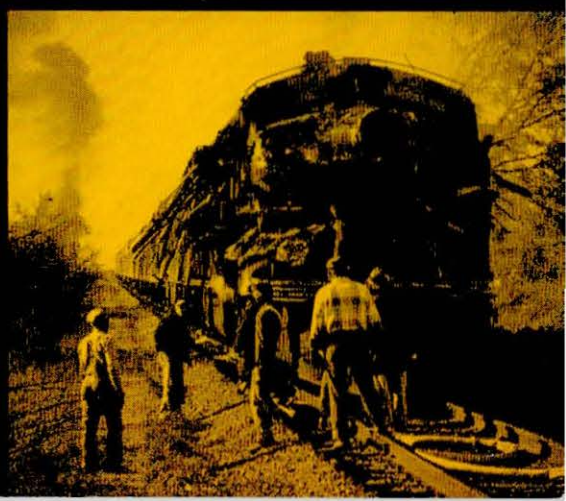


WHERE RAILROAD MEETS HIGHWAY:

How many deaths will it take?

p. 14





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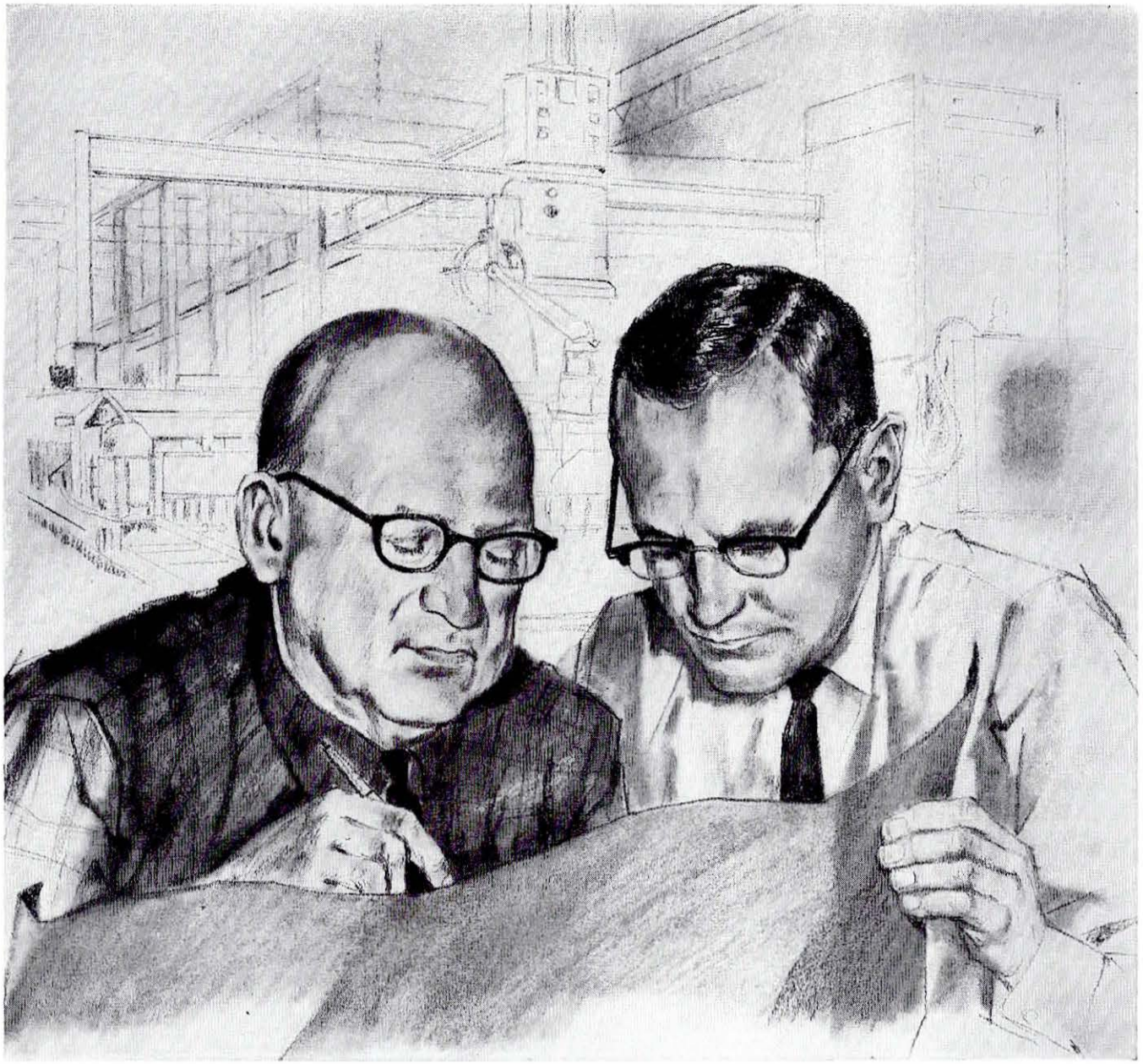

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When Berwick comes up with a rock bottom estimate for railroad components, the figures are from a couple of Bills. Bill Bankus, Sr., our chief engineer, and his son Bill Bankus, Jr. These are the guys who designed the jigs and fixtures for our car sides . . . the first of which was delivered in 2 months from scratch. These are the guys responsible for the ruggedness in Berwick's all-welded underframes. These are the guys who'll help you with your problem parts . . . then they'll design the tools to produce them in jig time. And well they should with 67 years of design experience between them.

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Berwick, Pa.

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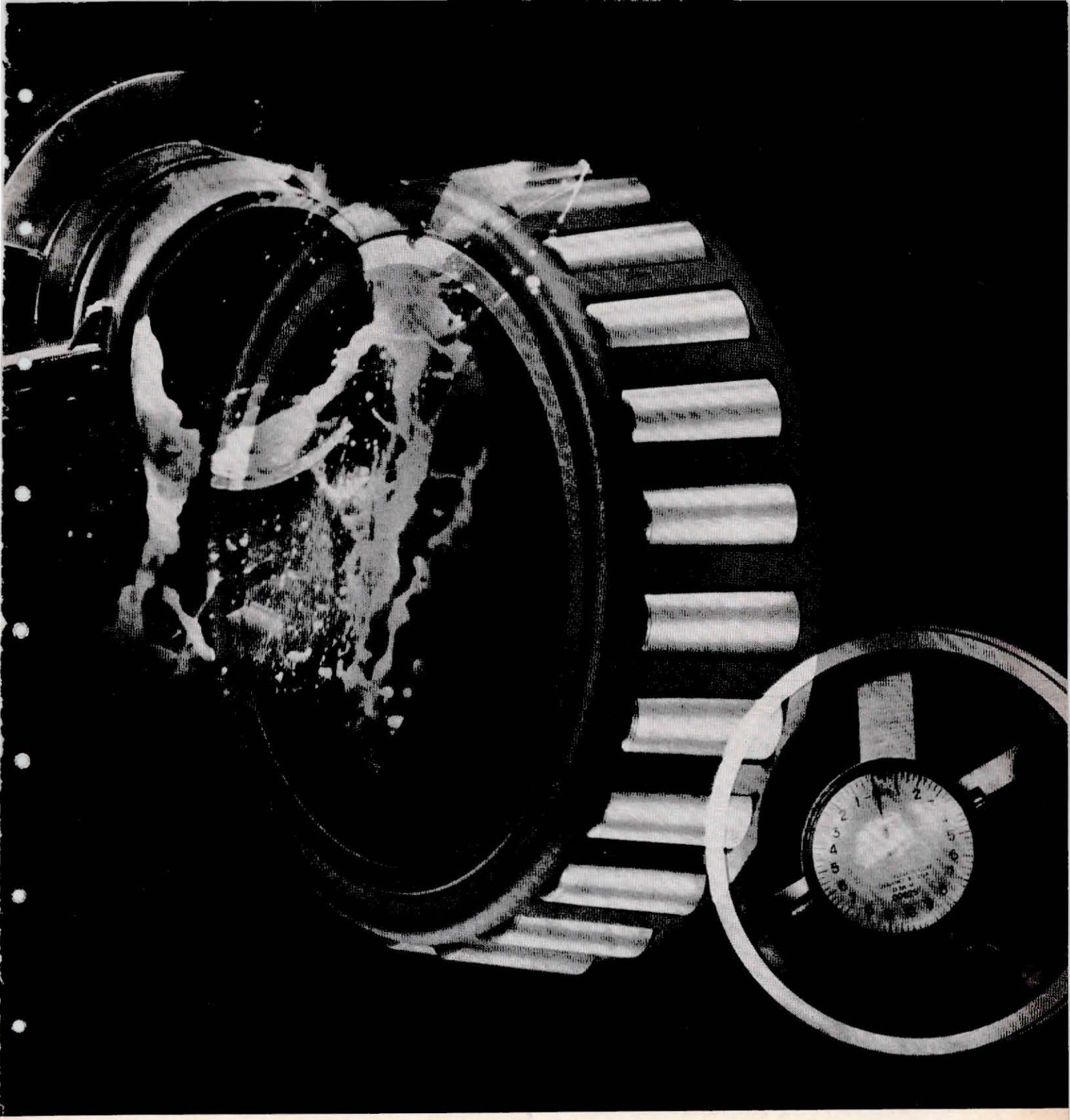

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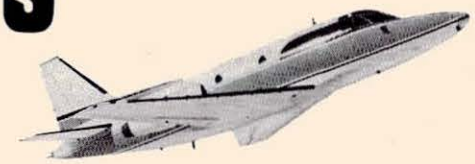
We asked Edd Bailey how a railroad president feels taking off in his Sabreliner jet.



He wishes it had a whistle to blow.

Obviously, the president of Union Pacific Railroad is a locomotive-fancier.

If locomotives could fly, maybe a railroad man wouldn't operate a Sabreliner. Mr. Bailey does, though. And it fits right in with the progressive way his railroad does things.

Union Pacific uses its Sabreliner to save executive time, the same as it uses integrated electronic systems to save shipping time. It also uses it as an airborne communications link with its shipping centers and to further its industrial development program by showing available plant sites along the line to interested parties.

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Or take our unique Product & Service-to-Owner Improvement Program. It keeps Union Pacific's Sabreliner as advanced as the latest one off the production line.

It's not easy for a business transport to be progressive enough for an automated railroad like Union Pacific. Sabreliner does the job.

We know it will never be the same as a locomotive to Mr. Bailey.

But a whistle just wouldn't seem right on an executive jet.

For full information about the world's most proven business jet – the Incomparable Sabreliner – write the national distributor: Remmert-Werner, Inc., Dept. 103, Lambert Field, St. Louis, Missouri 63145.

The Incomparable Sabreliner by North American Aviation

Circle 11 on reader service card

RAILWAY AGE

January 23, 1967 • Vol. 162, No. 3

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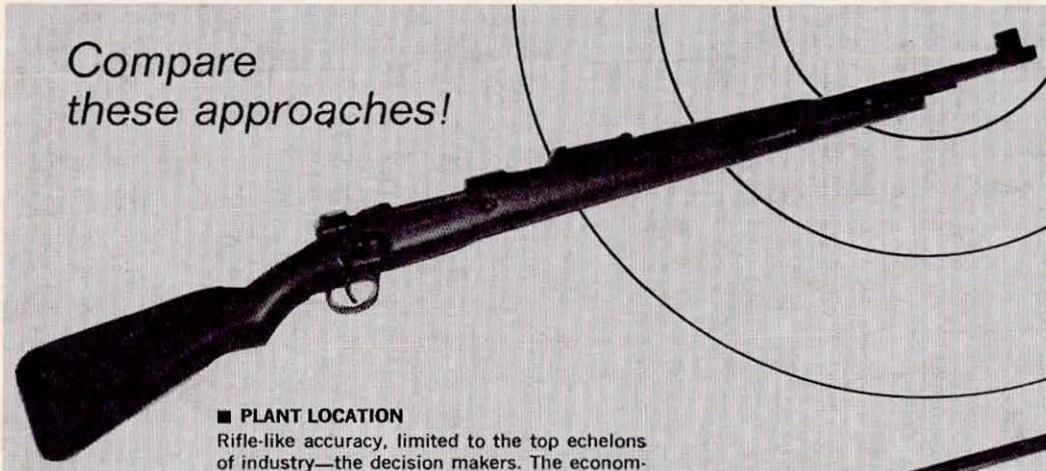

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SHORT AND SIGNIFICANT

Flexi-Van service booming for New York Central

"Containerization is the fastest growing development on the transportation horizon and is leading to integrated transportation service to shippers," New York Central President Alfred E. Perlman declared last week. And to prove it, so far as the Central's concerned, he released figures for 1966 on the road's rail-highway-water container service—Flexi-Van. The operation broke all records during the year, he said, with the road handling 150,098 units, up 22.9% over 1965. Last year the Central added two new Super Van trains to its fleet of high-speed express container trains. The 12 container trains operated by NYC have cut transit time between New York and the West Coast by at least a full day, Perlman said, adding that the use of Flexi-Van containers in international shipments is also showing rapid gains.

●

TOFC/COFC cars: TTX starts appraisals

Trailer Train has gotten the first of four experimental piggyback cars capable of carrying either trailers or containers. J. P. Newell, TTX president, has said that he wants the car pool to be ready with suitable cars if and when containerization begins rapid growth. Four builders are submitting all-purpose cars for special appraisal. The American Car & Foundry entry is now on the Southern Pacific where it will undergo a month's testing prior to its transfer to other roads for additional service appraisal. Next to go into service will be the General American car which has completed factory testing and is to be assigned initially to the Southern. Two other prototype all-purpose units are coming from Pullman-Standard and Bethlehem Steel within two months. All four cars are 89 footers with inside rub rails and cushioning to protect trailers and containers.

●

Slurry pipelines ready to make a comeback?

A lively new interest in what was thought to be a dead issue—slurry pipelines—has been generated in railroad circles with the announcement that the Southern Pacific Co., parent of the railroad, plans to get into the business. Southern Pacific has agreed to build a 275-mile slurry pipeline to carry coal from the Black Mesa area of northeastern Arizona to an electric generating plant of Southern California Edison Co. at Davis Dam, Nev. Peabody Coal Co. will supply a minimum of 117 million tons of fuel spread over a 35-year period. The contract with the utility, for a minimum of $500 million in coal production, is believed to be the largest in the history of the industry. A number of Eastern railroads reportedly are studying the possibilities of shorter slurry line operations.

●

The pattern spreads—but with a new twist

Four more unions—the Maintenance of Way Employes, Signalmen, Transportation Communications Employees, and Hotel and Restaurant Employees—have agreed to 5% wage increase for 1967. Unlike the operating organizations, which have accepted 5% settlements, however, the non-op agreement also provides for a 2.5% increase effective next Jan. 1. Reopening is permitted March 1, 1968, but no change in rates can become effective before July 1, 1968. Certain other demands pending will continue in negotation with provision for arbitration if settlement cannot be reached.

MONDAY MORNING REPORT

What's the meaning of speed?

High-speed trains are getting plenty of attention these days in this country, Canada and elsewhere. But when people are concerned with speed, the talk soon turns away from questions of velocity to questions of time. At least, that's how it was at the Midwest High-Speed Rail Transit Conference sponsored by the Chicago Association of Commerce and Industry, the Illinois High-Speed Rail Transit Commission, and co-sponsored by firms connected with the rail industry, including Railway Age.

High time for high speed

Attendance at the Chicago meeting was large, and a great many rail industry leaders, academic experts and important political figures turned out for the occasion. Dr. Robert Nelson, director of the Commerce Department's Office of High-Speed Ground Transportation, and James Diffenderfer, Pennsylvania's assistant vice president—special services, gave a quick rundown on the Northeast Corridor demonstrations. But most speakers kept coming back to two main points about time: The competitive potential in saving travel time, and the time lag between deciding what you're going to build, then going out and building it.

Flying gets slower

Illinois Central President William B. Johnson pointed out that airplanes begin to lose some of their inherent time advantage over other modes when traffic conditions leave planes "stacked up in the sky, waiting to land." Professor W. W. Hay of the University of Illinois observed that travel time from downtown Chicago to downtown St. Louis, using the plane, is about three hours over a 300-mile distance. "The same in-town to in-town station-to-station time could be achieved by rail at an average speed of 100 mph," Hay said, "including a 10-minute local destination trip by taxi at each end of the journey."

What about long-haul runs?

Most talk of high-speed rail lines has centered on short or medium-distance hauls, but Professor Harold Mayer of the University of Chicago indicated that maybe long hauls should be included, too. According to Mayer, a geographer, the Great Lakes megalopolis contains many large cities along the main urban-industrial axes, where high-speed trains could accommodate medium-haul services, and carry a certain percentage of passengers over the long-haul. "We cannot afford," he said, "to write off the high-speed train on such runs as Chicago-New York, and Chicago-Washington, if much higher speeds and higher-density accommodations are combined with smoother roadbeds and closer connecting schedules."

Get busy on planning

But there was another aspect to the meeting: How to slice down the time it takes to pick a program, then put it into operation. Aaron Gellman, vice president—planning, North American Car, and Consultant C. H. Koenig of A. T. Kearney, both called for stepped-up research to make the choices clear and get things moving, one way or another. And Professor Hay had a warning: Planning of the Bay Area Rapid Transit system began in 1950, and is only now showing something tangible; he cited similar cases of long delay in Washington, Toronto, Montreal. If these conventional systems took so long to get started, how much longer will it take to get "exotic" systems into operation? Concluded Hay: "Returning to the first category, the flanged wheel on steel rail concept, one can find an answer in a tried and known transport and technology system that gives every promise of being adaptable to a level of speed and service that will meet the needs of the next 20 years, and probably for a much longer period."

WEEK AT A GLANCE

Burned out of a home, railway show seeks new site

Early on the morning of Monday, Jan. 16, the impossible happened once again. McCormick Place, Chicago's cavernous exhibition hall and a building many regarded as fireproof, was destroyed by a flash fire which broke out only hours before the trade show of the National Housewares Manufacturers Association was to open.

With the dawn came the sure knowledge that McCormick Place lay in ruins—as did the plans of some 30 organizations to hold major exhibits there this year. Among the victims: the 1967 American Railway Progress Exposition, scheduled into the hall (and at Illinois Central's nearby 31st Street yards) for the week of Oct. 8-13.

Officers of the Combined Railway Suppliers, sponsors of ARPE, immediately began to search for alternatives. At presstime, all indications were that the 1967 Exposition would open as scheduled —but with the indoor exhibits at Chicago's International Amphitheater. The track exhibits presumably will be held as planned in the IC's yards.

AAR gives go-ahead to car movement study

The worrisome problem of keeping track of the nation's car fleet was a step closer to being solved last week. The AAR announced in Washington that its board of directors has authorized a study to evaluate the benefits of a centralized car movement information system.

Heading up the study group will be an ad hoc committee of top railroad men, each experienced in computerized car movement operations. Also participating in the project will be three analyst programmers to be assigned to the Data Systems Division, and a computer-oriented car distribution specialist within the Car Service Division.

The AAR had more good news. It announced that it is setting up a Universal Machine Language Equipment Register (UMLER) to organize on magnetic tape information on the physical characteristics of the 2.2-million unit freight car fleet of AAR member roads and private car lines in the U.S., Canada and Mexico. A central magnetic tape file, which would include more information than is given in the official railroad equipment register, will be established in the Data Systems Division in Washington for members' use.

Rockefeller backs N.Y. crew-law repeal

Railroads operating in New York state are hopeful that a proposal Gov. Nelson Rockefeller made in his annual message to the legislature will soon come to pass—the legislature, that is. The Governor said he plans to propose legislation "to repeal the last remaining vestige of the State's archaic full-crew laws with adequate job protection for the present work force."

This past year the legislature repealed Sections 54-a and 54-c of the train crew law. But still on the books is 54-b, which requires a fireman or helper on every diesel-electric locomotive operated in the state.

It's estimated that existence of the law costs the railroads some $13 million every year for jobs described as "unnecessary and unproductive."

You've kept us busy making bearings...

now you've got us making history.

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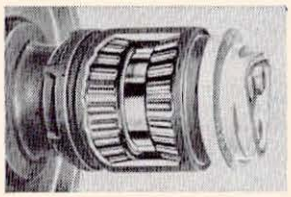

TIMKEN®
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BEARINGS

Circle 4 on reader service card

Bridwell and McKee get DOT positions

President Johnson sent to the Senate last week for confirmation his appointments of Lowell K. Bridwell and Gen. William F. McKee, U.S. Air Force (Ret.) to be administrators, respectively, of the Federal Highway Administration and Federal Aviation Administration in the New Department of Transportation. Bridwell is now the Department of Commerce's Deputy Undersecretary for Transportation, and McKee is head of the Federal Aviation Agency which will become part of the Department of Transportation.

The new Cabinet-level department will be headed by Alan S. Boyd as Secretary of Transportation. Boyd took his oath of office Jan. 16.

Erie Lackawanna to get new "partner"—New Jersey

The State of New Jersey has the money and the commuters, and Erie Lackawanna has the trains and the passenger deficits—so last week the two got together to work out a mutually beneficial arrangement.

The State Commuter Operating Agency agreed to pay the E-L $4.2 million to cover losses suffered by the line, retroactive to last July. And the railroad agreed to keep carrying some 30,000 commuters through June 30, plus restore, by Feb. 6, the 45 trains it dropped last October.

But bigger developments are in the works: the railroad and the state will begin immediate negotiations for a long-term capital partnership, under which the state will play a major role in purchasing new cars and equipment for the line. Also in the contract: the state will be able to penalize the road for "unsatisfactory" service.

GUS WELTY'S LINES ON LABOR

WELTY

THE PERILS OF AUTOMATION can sometimes get pretty ridiculous. Take, for instance, what's been happening to Union Pacific since that day back in 1952—that's right, '52—when it began using IBM equipment in the performance of certain chores which combined clerical and communications functions. All UP wanted was to improve its data-handling operations. It got that—and it also go a grand tour of the National Railroad Adjustment Board, U.S. District Court, U.S. Court of Appeals, the Supreme Court, District Court again and the NRAB again.

IN PRE-IBM DAYS on UP, clerks prepared waybills, manifests, orders and so forth—and telegraphers transmitted the material. But with the IBM equipment, the communications operation was automatically performed as the clerical function was being handled. Ergo, UP's need for telegraphers in this area was almost eliminated—and operation of the IBM machines went to the clerks.

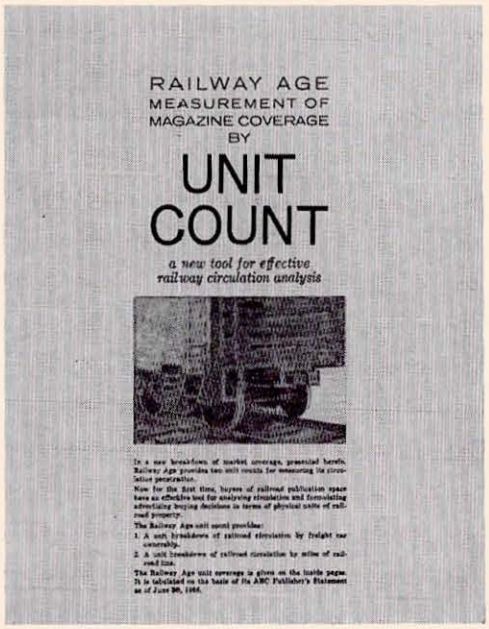
ALL THIS, rather naturally, brought the Order of Railroad Telegraphers (as it was known then) into jurisdictional conflict with the Brotherhood of Railway Clerks. But there's a protocol in such things that would make a diplomat wince. In matters like this in railroad affairs, a union which feels offended argues not with the other union but with management. Call this Dispute A. If it's settled and the initially-offended union wins its point, that sets the stage for the initially-favored union, which is now the secondarily-offended union, to launch its own argument with management. This becomes pretty ridiculous.

IN THE UNION PACIFIC case, the Telegraphers protested the job loss to the Adjustment Board. The Clerks were notified of the action, but in keeping with custom, they stayed out of it. The NRAB, hearing and deciding the case without considering UP's liability to the Clerks under their contract, said the Telegraphers were entitled to the jobs under *their* contract. The Board ordered UP to pay telegraphers who had been idle because the jobs were assigned to clerks. UP rather naturally balked, and that's how the dispute wound up in federal court—with the Telegraphers suing to compel payment.

THE SUPREME COURT, when it finally got its chance, held that the NRAB had abdicated its duty to settle the entire dispute and had contributed to creation of a "merry-go-round" situation. So, it's back to the NRAB (via the District Court), and the NRAB presumably will now consider all the facts in the over-all case, regardless of whether the Clerks actually participate. And someday, there may even be a final verdict.

TWO NEW AIDS

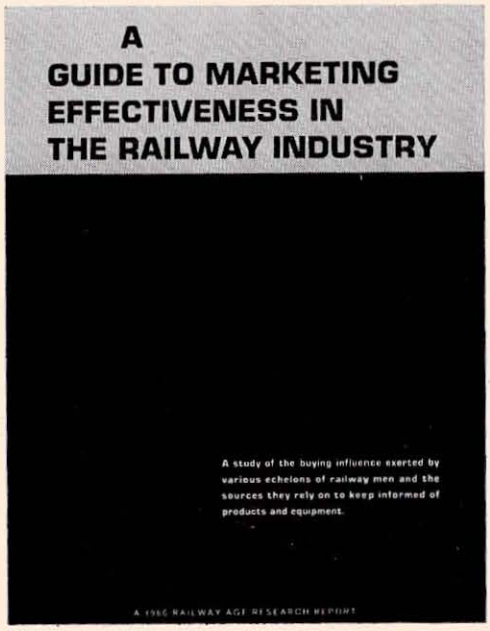
to advertising and marketing effectiveness in the railway industry



Railway Age now offers advertisers a new measurement of its circulation coverage and penetration, based on two unit counts of railroad property—freight car ownership, and railroad mileage. This new study shows how Railway Age reaches railroad buying power where it is of greatest importance.

It lists Railway Age circulation by 8 groupings of freight car ownership and by the same number of groupings of railroad line mileage. Circulation data for each grouping is presented in the exact occupational classifications shown in the Publisher's ABC Statement.

Available for the first time in the railway industry, this pinpointed analysis should provide a new dimension for the selection of railway advertising media.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Now available: A new study of railway buying influences and the sources railway men use to obtain product information. It provides answers to a wide range of questions designed to show *where* and *how* suppliers can best get through to the railroads.

This study should be immensely helpful in planning sales and marketing strategy. It has been obtained through a Simmons-Boardman Marketing Effectiveness Survey personally conducted among 276 management officers and supervisors on 28 Class I railroads and five transit lines.

Outstanding in the results of the survey is the top position occupied by railway magazines as sources of railway product information. These magazines rated high among all nine of the groups of railway men surveyed.

Write for your copies of these studies to Railway Age
30 Church Street, New York, N.Y. 10007—Attention: Robert G. Lewis, Publisher

RAILWAY AGE

COSTS ARE HIGH for equipment and lading damaged and destroyed in grade crossing collisions.

Where railroad meets the highway

How many deaths will it take before an end can be made to the senseless massacre at the nation's railroad-highway crossings? Alan Boyd says the situation is "an area of major interest."

By GUS WELTY

It's not hard to visualize the scene. The hour is late, and the passengers on the Boston & Maine RDC are dozing or perhaps reading an early edition of the morning paper. Soon, they'll be home. Engineer Tom Bagley, though, only left home a couple of hours before. He has quite a bit of time left on his job this night.

But Bagley, his conductor and 10 of his passengers never saw home again. Coming through Everett, Mass., the RDC rounded a curve and in its path, stalled on a grade crossing, was a tank truck loaded with 7,000 gallons of fuel oil.

The toll: 12 dead, 18 injured.

As Bagley's 18-year-old son later told a Boston Globe reporter, "Dad used to take us for a ride on the train. He always said he hated that spot."

● **And for what?** It would be unfair and perhaps inaccurate to say that Bagley and the others died in vain. But it's hard, almost impossible, to escape the conclusion that hundreds, thousands, have died in just that way—at grade crossings and in vain.

To put it another way, events of the 1960s give little encouragement to those who keep hoping for an end to what is, essentially, senseless massacre of innocent people. This is the record of the '60s:

—Early in 1960, a crack Santa Fe passenger train crashed broadside into a loaded fuel-oil tanker at a California crossing. Engineer, fireman and 12 other persons were killed. Less than a week later, a father and son—engineer and fireman on a Katy switch run—collided with a propane tanker. Father and son were killed. More than any other incidents, these two touched off demands by the operating organizations for an ICC investigation.

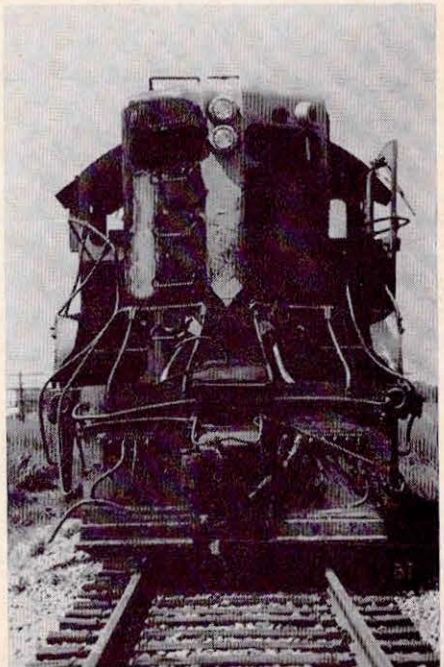
—Brotherhoods and carriers petitioned the Commission, asking for a general probe aimed at determining ways and means of preventing accidents involving trains and motor vehicles carrying petroleum, its products and similar flammable liquids. The ICC denied the request in August 1960.

—Accidents kept happening. Illinois Central's "City of New Orleans" collided with a tank truck in Mississippi.

HUMAN TOLL is high . . . and has been going higher recently.

FIRE-RAVAGED tractor and locomotive cabs . . . mute testimony to tragedy.

BENT...BLACKENED...and out of service.



Eight persons were killed. Again the brotherhoods beseeched the Commission to take action.

—In February 1961, the ICC granted petitions for reconsideration and set up a general investigation to determine the adequacy of existing safety regulations and to determine whether new legislation was needed. That was in February. The first hearings weren't held until November.

—The record eventually totaled more than 3,000 pages. An examiner's report was issued, and in January 1964—almost three years from date-of-decision to hold the investigation—a 92-page report was issued. Specific findings and recommendations were cited. The stage was set, presumably, for meaningful action to cut the toll of grade-crossing accidents.

—Hopes of the optimists faded rather quickly. Elements of the trucking industry filed suit in federal court to have the ICC report set aside. Not until January 1966 did the report take force and effect, with the U. S. Supreme Court sustaining a lower court's dismissal of the trucking organizations' complaint.

—With the decision of the case by the high court, railroads and brotherhoods seemed in position to move ahead with a joint safety program. But that was a year ago—and there are people who will tell you that, still, very little has happened, except that the 1966 grade-crossing accident reports are showing increases over figures of the preceding two years.

● **Is there a bright side?** At the moment, those close to the problem seem to have two main hopes. One is that joint management-union action programs will finally get going in more meaningful fashion. The other is that the Department of Transportation, in taking over safety functions of the ICC and other agencies, will be better equipped to carry out the recommendations of the 1964 ICC report.

The problem, certainly, is there. And while it's true that grade-crossing deaths in recent years don't match the totals recorded during the late 1940s, the present trend is unhealthy at the least.

Comparison of the first four months of 1966 with the like periods of '65 and '64, for instance, shows increases last year in total number of accidents, total number of accidents resulting in casualties, total number of persons killed and injured, total number of persons other than employees killed and injured. About the only casualty-category that shows improvement for the Janu-

Boyd sees a "complete new set of regulations"

ary-April period is the column recording employee deaths and injuries—but nobody, in either management or labor, is regarding this as a reason, or an excuse, for slackening efforts.

As H. E. Gilbert, president of the Brotherhood of Locomotive Firemen & Enginemen, once observed, "The magnitude and the gravity of the problem are not to be measured alone by the statistics. Railroad operating employees are faced daily with the hazards of collisions with motor vehicles and attendant loss of life at highway grade crossings. [These are] not susceptible to statistical prediction."

● **Boyd speaks out.** Top representatives of both the railroads and the operating brotherhoods seem confident that their joint programs will be working, and soon. But the comments of Alan S. Boyd, President Johnson's choice as Secretary of Transportation, are also promising.

A few weeks ago, Boyd had these points to make in a meeting with state regulatory commissioners:

"Another area of importance is the movement of hazardous materials. The regulations governing these movements have a long and honorable history. Yet many of them are outdated and have little utility in the light of developments in science and technology. These regulations will be reviewed for all commodities and for all modes of transportation. I would expect that a complete new set of regulations governing the movement of hazardous materials will be issued. . . .

"For years, the traveling public, the railroad industry and motor carriers have been concerned with death, damage and destruction caused by accidents at rail/highway grade crossings. The ICC reported its findings and recommendations in a study completed in 1964. People are still being killed and nothing approaching a remedy has been put into effect. This is another area of major interest which the Department of Transportation will pursue."

● **An 'amen' from the chief.** Brotherhood leaders hope Boyd does just that. Perry S. Heath, grand chief of the Brotherhood of Locomotive Engineers, calls the 1964 ICC report "a good one, but it has not been implemented sufficiently, as is obvious from the B&M disaster. It is incumbent upon the new Department of Transportation, as it assumes the ICC's safety functions, to press anew into the field of grade-crossing safety, particularly the phase relating to the lethal tanker trucks." The BLF&E's Ed Gilbert agrees: Grade-crossing safety should be "at the top of the agenda" for DOT and its National Transportation Safety Board.

Charles Luna, president of the Brotherhood of Railroad Trainmen, also calls for immediate action to prevent accidents—by making full use of technology in crossing protection, by more fully developing causes of accidents, by setting up uniform rules of driving procedure at crossings, by giving motorists greater advance warning that they're approaching a crossing. Luna sets his goals high: Ultimately, he says, there should be no crossings at grade; and in the meantime, "we feel that all crossings should be marked with flasher lights and/or automatic gates."

Question of responsibility

As in everything else, cost is a problem—but cost, as many see it, isn't the over-riding problem in this area of safety; responsibility is. One observer puts it this way: "If enough money could be spent, everybody in the world could be insulated against every hazard that exists. That's impossible, so you do what you can, and you try to develop some sense of responsibility in people, to themselves and to others."

● **The price goes higher.** In any event, the price-tag on complete elimination of grade crossings was put at $86 billion, during the ICC investigation. It's gone up since then. But even at the several-years-old figure, the total represented about two-and-a-half times the total Class I railroad investment in property and equipment.

Installation and maintenance of automatic crossing-protection devices can also be costly. But, as many see it, use of such equipment is the most practical approach, in a technological way, to the problem. And there's rather general agreement that the expense should fall mainly on sources of public funds, on the sound grounds that it's the public—the motorist, automobile, bus and truck—who realizes the primary benefits. On federal-aid routes, the expense split on installation generally is 90-10, with public funds providing the 90; a number of states have put in identical cost-sharing provisions.

● **RLEA on costs.** Some railroad men remain wary on cost aspects of crossing-protection programs, and in some states they have good reason for thinking that way. But at least there's a somewhat united front. There is on record a Railway Labor Executives' Association resolution urging the ICC to recommend that "an expedited program of grade-crossing elimination and/or protection be inaugurated at once [and] that the expense incurred by the railroads, over and above the tangible benefits that they receive, be borne by the public and that the carriers be appropriately reimbursed for the substantial expenditures necessarily incurred in furthering such program so that the services of the large force of skilled and competent railway employees might be utilized in such programs of protection and installations."

Maintenance is another matter. In what many regard as too many circumstances, railroads are forced to bear maintenance costs on crossing-protection installations, regardless of how actual installation is financed. And it, too, can be a costly thing, motorists being what they are. There is also on record a case reported by one western railroad in which, over a seven-year period, gates at one crossing were damaged by motor vehicles 172 times—and the repair cost averaged more than $8.50 per day.

● **It's not all bleak.** All of this is not to say that there hasn't been some progress in promoting grade-crossing safety, in recent years. The ICC investigation itself was a healthy thing; the examiner's report and the report finally adopted by the Commission were most encouraging. A number of individual railroads, working with brotherhood people and with safety and law-enforcement personnel hope they've created a better climate for promotion of crossing-safety programs.

Not all the efforts may be practicable or practical. The BLF&E's Ed Gilbert, for instance, yearns for the removal of grade-crossing safety from the adversary-proceeding type of thing which pits railroad industry against trucking industry and vice versa. The BRT's Luna has a variety of technologically oriented proposals. Men holding various spots in the railroad-industry program keep hoping for a more active, positive role to be played by the labor organization representing truck drivers.

● **'The public should pay.'** Through it all, railroad men cite that 1964 ICC report and the points it established. What were some of those points? For one important thing, the Commission said the "only realistic conclusion that can be reached is that most of the rail-crossing accidents are caused by human failure arising from non-compliance by the drivers with the applicable Commission regulations or the state laws and regulations. The only hope

to lessen the number of accidents is a systematic enforcement of existing safety laws and regulations." As for the practical matter of deciding upon whom the cost-burden should fall in crossing-safety improvement programs, the ICC made it equally clear: "Insofar as this record is concerned, the consensus supports a conclusion that the major costs of grade separation and protection at rail-highway grade crossings should be borne by the public since the public is the principal recipient of the benefits derived from grade-crossing protection."

The list of findings and recommendations, as published by the ICC almost three years ago, is a long one. It begins with adoption of the examiner's opinions and moves on to eight specific recommendations—headed by a proposal that Congress or the President create an organization of directly-interested persons to formulate uniform crossing-protection standards which might then be referred to the states for action.

• **Thoughts from the ICC.** The Commission also proposed, among other things, that:

—Congress give serious consideration to legislation covering the provision of public funds for installation and maintenance of crossing-protection devices.

—State legislatures consider amendment of existing law and regulation to provide that highways may not be used in interstate commerce except in compliance with ICC regulations, thus making a violation of Commission regulations a violation also of state law or regulation.

—State legislatures begin an intensified enforcement program and "consider the adoption of rigid driver-licensing laws and regulations for operators of motor vehicles transporting dangerous commodities and whenever possible, require such vehicles to be rerouted over grade crossings located outside of congested areas where hazards are at a minimum."

—Railroads improve maintenance of rights-of-way at crossings, remove all sight obstructions and establish a uniform train-approach warning time of not less than 20 seconds.

But now it's three years later, one year since the Supreme Court cleared the ICC report. As DOT Secretary-designate Boyd notes, "people are still being killed and nothing approaching a remedy has been put into effect."

Joseph H. Hays, general counsel of the Association of Western Railways, has been a doughty—and effective—fighter for the cause of grade-crossing safety. He puts the case succinctly in a recent comment: "If everyone obeyed the law, there would be no collisions between trains and motor vehicles." ■

(For editorial comment, see page 40)

LUTHER MILLER

AS THE EDITOR SEES IT...

BACK TO EARTH—Many railroad passenger men take a fatalistic attitude toward airline competition. "How in the world can trains compete with speeds like this?" sighs the GPTM as he jets to a train-off hearing. There is merit in this argument, but recent experience in Japan and Britain suggests that it has some serious flaws.

Elsewhere in this issue, Publisher Bob Lewis tells how the billion-dollar New Tokaido Line has confounded the skeptics and plunged Japanese airline men into something close to despair. NTL's 125-mph trains compete so well with 500-mph jets that two airlines on the Tokyo-Osaka run have had to slash fares and pool operations.

We can imagine what our train-off petitioner might reply to the above: "Speed isn't the only thing on the New Tokaido Line. It's those fancy new trains, and who can afford them?"

OLD BUT OH SO FAST—We recommend that this hypothetical skeptic ride (as we did last summer) the British Railways' "Irish Mail." In terms of comfort and cleanliness, the train we rode would make some of the antiques that ply along our eastern seaboard look like tomorrow's Talgos.

But for most of its journey the "Irish Mail" goes at a 100-mph clip, a speed made possible by a costly electrification program undertaken between London and Manchester. Is this fast enough for the jet set? It seems to be. Rail traffic has burgeoned by 60% since Operation Speed-up. The just-published winter schedule of British European Airways provides an illuminating footnote. BEA has cut seat capacity between London and Manchester by 20% because, says BEA, "The electrification of British Rail has taken its toll of our traffic . . . ."

We hope, and believe, that the Pennsylvania will soon have an equally good story to tell. This railroad's chairman, Stuart T. Saunders, has braved a storm of criticism (some of it on his own property) to participate in the Northeast Corridor High-Speed Project. It may not be generally appreciated that the Pennsy is investing some $3.50 for every $1.00 put up by the federal government.

Maybe the skeptics, in this case, will prove to be right. But without the courage and far-sightedness of men like Stuart Saunders we would never know. And we would always have the nagging suspicion that the Japanese and the British were simply smarter.

THE MARTINI FACTOR—Being a trade-magazine editor carries its occupational hazards, one of the most chilling of which can be the mere act of answering the telephone or opening a letter. "I am interested in the Delaware & Hudson Railroad. Please send it by return mail," demanded a high school senior of our managing editor. We get other requests that are hardly less tough, and one of the toughest came last week: Would Railway Age care to predict how many martinis will be consumed by railroad passengers five years hence? The question came from a bottler of pre-mixed cocktails.

Well, Railway Age doesn't care to do anything that might offend the WCTU, but we are willing to field a few questions. Assuming that long-haul traffic will decline, isn't it also fair to assume that commuter traffic is going to rise? And where are the boozers anyway? In the East? (It's certainly true that the New Haven, which is otherwise bankrupt, has for years been the only railroad to report a favorable dining-car ratio, a distinction usually attributed to an uncommonly brisk bar-car business.) Will Chicago commuter trains, now as dry as Death Valley except for one or two members-only saloon cars, move into the wet column? Will those travelers who now air-shuttle New York to Washington in about two fast martinis, make it a leisurely three-martini trip when the Northeast Corridor trains come in? An anxious railway supplier awaits some educated guesses.

Three ACI systems get field tests on PRR main line

Automatic car identification plans of three manufacturers will be tested against basic requirements established by the AAR.

Cost-cutting benefits of ACI, according to a series of studies, can be extremely attractive. Present tests may last four months.

The automatic car identification field tests sponsored by the AAR should be in full operation on Feb. 1. To be tested is the scanning and read-out equipment of three manufacturers: Abex Corp., Sylvania Electric Products Inc. and the Union Switch & Signal Division of WABCO.

The field tests are to determine whether the ACI equipment will meet the AAR's basic system requirements.

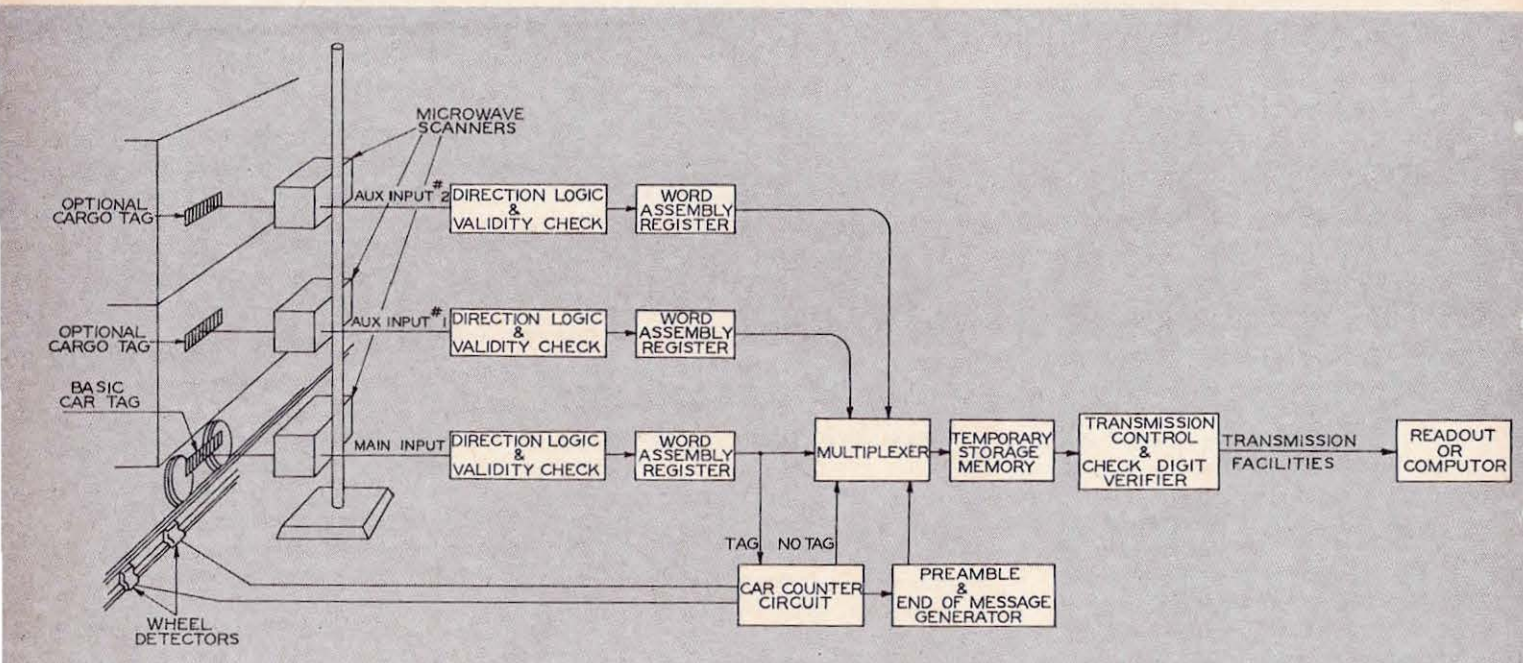
Heavy snows, the Christmas and New Year's holidays—plus the time required to label 40 hopper cars, 10 tank cars and 5 piggyback flats—led to delays in starting the field service testing, which was originally scheduled to begin Dec. 1, 1966.

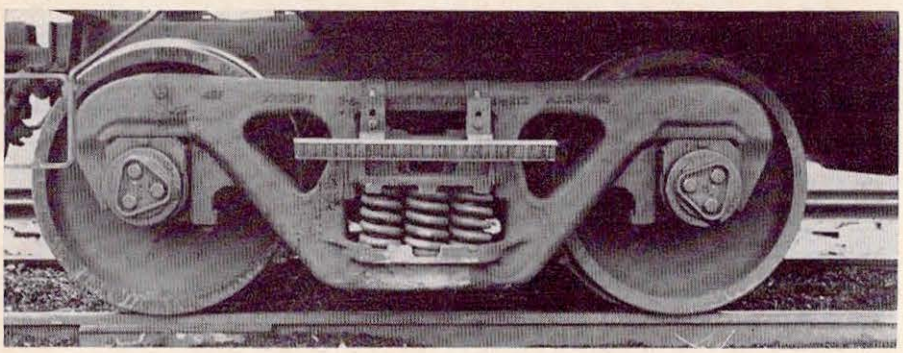
• **On PRR's main line.** At Spruce Tower, near Tyrone, Pa., on the Pennsylvania's main line, Abex, Sylvania and US&S have set up wayside scanners and associated equipment housed in trailers. Scanners are set up to read cars moving in trains on the eastbound track. Readout will be in hard copy form in each manufacturers' trailer. This is done so that there will be little or no variations due to communications lines, tape punches or readers.

Printers are directly connected to the logic units, which means the output will truly reflect the accuracy of the scanner and decoding equipment.

• **Cooperative effort.** The ACI field tests are being conducted under the joint sponsorship of the AAR's Data Systems Division and the Research Department. The latter is charged with collecting information from the field tests and making periodic progress reports.

The PRR has provided the test site and labeled the cars. Also, the PRR will run the cars in trains on a periodic basis so that meaningful numbers of





ABEX SYSTEM

Multiple reading heads are used for scaning labels on trailer vans and containers. Microwave energy is beamed from the reading head in the wayside scanner. Car tag has reflectors of die cast aluminum mounted in a steel frame. Brackets holding the tag frame are bolted or welded to pedestal jaws or the truck sideframe.

scannings can be obtained. Says one railroad observer: "Much of the credit for getting this ACI test off the planning pad and into operation is due to C. L. Towle." (Towle is PRR director of industrial engineering and a member of DSD's Ad Hoc committee on ACI.)

The field service tests were scheduled to last probably about six months. With the February start there may be an earlier cut-off date. However, it is felt that much meaningful data can be obtained in a 4-month test period.

Data to be collected will include:

—Time and material costs for making field installations of the scanners.

—Time and material costs for applying the tags to the cars and trailer vans used. (To simulate container loadings, tags will be placed at appropriate heights and longitudinal spacings on trailers.)

—Total costs for both routine preventive and failure maintenance, including duration of time to restore equipment to service.

—Weather and other environmental conditions.

—Output of wayside equipment to show compliance with the specifications, as follows: (1) car initials and numbers; (2) flagging parity check failure; (3) indicating untagged cars; (4) failing to account for all cars; (5) indicating presence of non-existent cars; (6) identifying trailer vans and containers (simulated); (7) integrating trailer van or container with appropriate car.

● **Wheel report comparisons.** Additionally, the ACI printout record of each system on test will be compared with the PRR's wheel reports. Causes of any discrepancies will be established and the reason for errors determined. The mean-time-between-failure (MTBF) for the ACI equipment also will be determined. Car tags will be inspected periodically for deterioration of either the tag or the mounting.

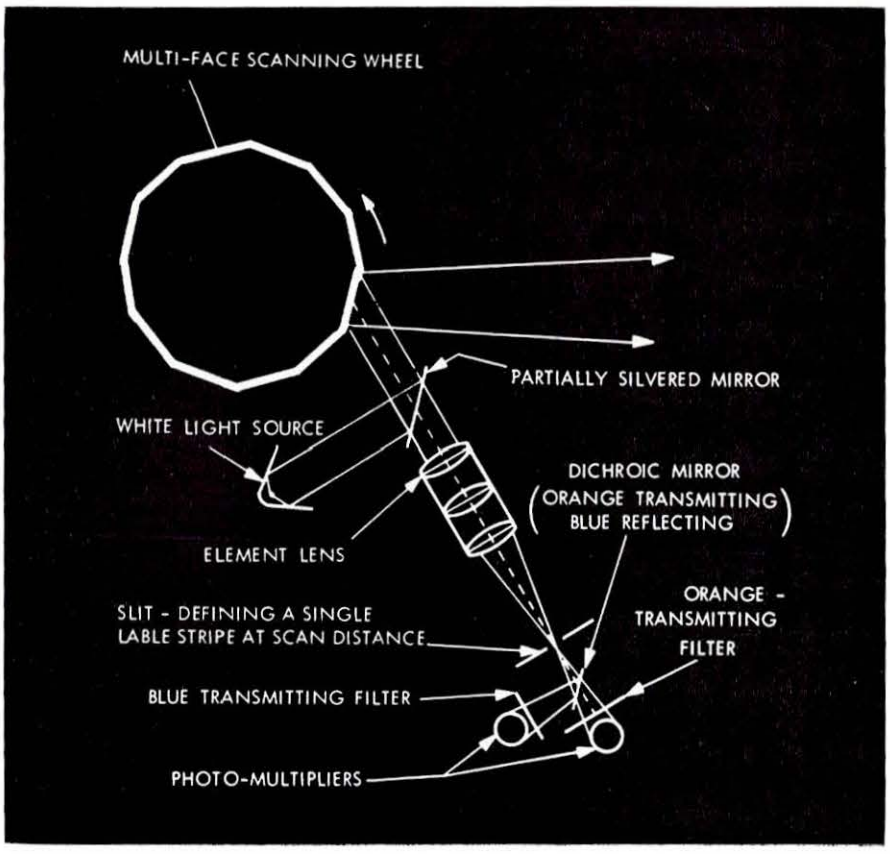
Laboratory testing of the three ACI systems will be performed by the AAR Research Department at its Chicago facilities. The lab tests will expose car tags and scanners to extremes of temperature, ambient light, humidity and other environmental effects such as smoke, ice, snow, rain, spilled lading and dirt accumulation.

● **Abex uses microwave.** In the Abex ACI system a microwave beam of energy is directed at a metal label attached to a bracket mounted on the truck sideframe. The microwave beam, operating in the 36-billion-cycles-per-second frequency range, strikes a corner reflector cast into the car tag and is reflected back to a receiver in the scanner.

The microwave beam, before leav-

SYLVANIA SYSTEM

This ACI arrangement beams light to the car via a rotating mirror. The colored car label reflects blue, orange and white light which is identified by dichroic mirror and filters. Color coding is the key. Scanner reads piggyback car and trailer labels with its vertical scanning ability. Only one scanning head is required to read multiple labels. The label stripes are horizontal.



Automatic car identification systems can pay for

ing the wayside scanner, is modulated and passed through a vertically polarized transmitting waveguide. Passing out of the waveguide, the beam is focused by a fiberglass Fresnel lens on the point where the car tag will pass.

The microwave beam, being vertically polarized strikes the passing car and car tag. The corner reflectors of the car tag are so arranged that when the beam strikes the tag the polarization of the reflected energy is rotated 90 degrees. Thus, the microwave beam returns from the car tag as a horizontally polarized beam. When the microwave beam reflects off the car it returns as a vertically polarized energy beam.

The horizontally polarized receiver accepts only the beam reflected off the car tag or label. The amount of power in the reflection from the label is 30 times greater than the signals from any background reflectors (such as car or other objects).

• **Ones and zeros.** The car tag consists of corner reflectors (representing binary ones) and blank spaces (representing binary zeros). The logic circuitry of the wayside scanner receives the pulses of the reflected microwave beam. After determining direction of travel, circuitry measures the arrival time of the first group of pulses and checks this against an internal clock, to determine speed of travel of the car tag.

From this speed factor, a timing rate is determined for pulse sampling circuitry which is required to determine the presence of binary ones and binary zeros. A sample is taken of the reflected energy. If a high-energy content pulse is present, the pulse sampling circuit interprets it as a binary one. If no pulse is present, a binary zero is recognized.

• **Message programmed.** The train of binary bits is processed in logic modules, assembled with other parts of the message such as the preamble (date, time, etc), checked for parity and prepared for transmission to the printing unit. Memory programming adds such elements to the message as indications for untagged cars, error symbol, carriage return and line feed symbols for Teletype printout.

The temporary storage unit consists of three magnetostrictive delay lines forming the memory and information from successive trains. Data is stored alternately among them. Also, data can be read out of one delay line simultaneously with the reading in of data to another line. Speed of readout can range from 60 to 2,000 words per minute. Memory capacity is in excess of 400 cars. Additional delay lines can be provided to increase this temporary storage.

• **Steel label, aluminum digits.** The Abex label frame consists of a length of rolled steel which has channels for holding 13 die cast aluminum characters. There is a character for each letter of the alphabet, one for each numeral, a blank character, and start and stop characters. The meaning of each character is imprinted on its face.

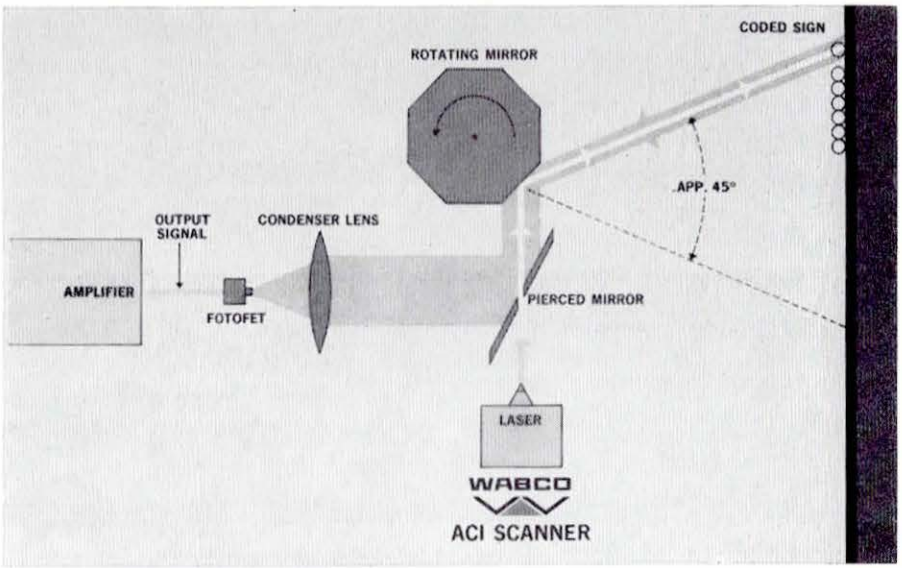
Each character has rows of microwave reflectors cast into the front surface. These vertical rows of reflectors are arranged so that a binary one is represented by a vertical row of reflectors and binary zeros are represented by a blank surface.

The tag or label (about 30 inches long) is attached to the car by bolting it on two brackets which are welded to the pedestal jaws or the journal box of the truck side frame.

• **Plastic label for trailers.** Abex uses a plastic sheet with adhesive backing for application to trailer vans and containers. A microwave dipole array is printed on the plastic sheet. This label, about 12 inches high by 32 inches long, is mounted about 8 feet above the top of rail.

A second microwave lens assembly is required to read the trailer labels. The logic unit contains equipment to store the trailer label data and associate it with the proper piggyback flat carrying the trailer.

• **Sylvania uses light.** A light-reflective optical system is the basis of Sylvania's ACI equipment. The light source is a high intensity white lamp, light from which is reflected from the surface of a partially silvered mirror toward a multi-faced rotating mirror.



WABCO SYSTEM

The light source, a laser, produces coherent light in a bundle of parallel rays. Binary coding is used in the horizontal striping (vertical scanning). Stripes are alternately reflective and non-reflective in a binary code pattern of standard teletypewriter format. WABCO's scanner is a solid-state device using integrated circuits in the logic portion. Scanning is vertical so that a single reading head will scan trailers, containers and piggyback cars.

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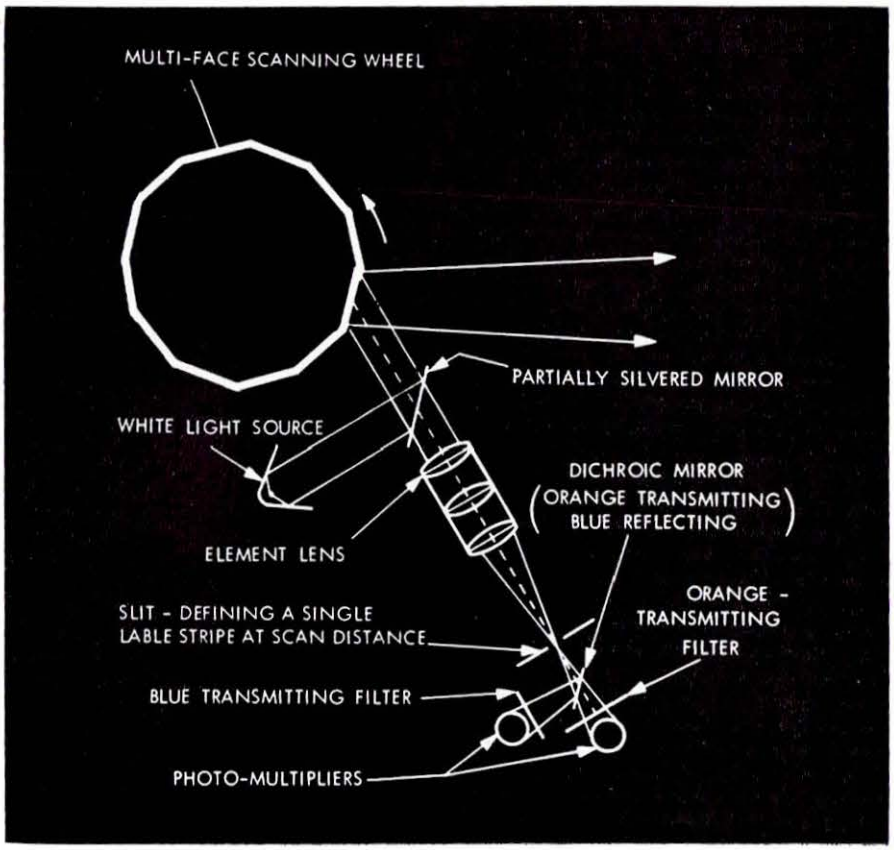

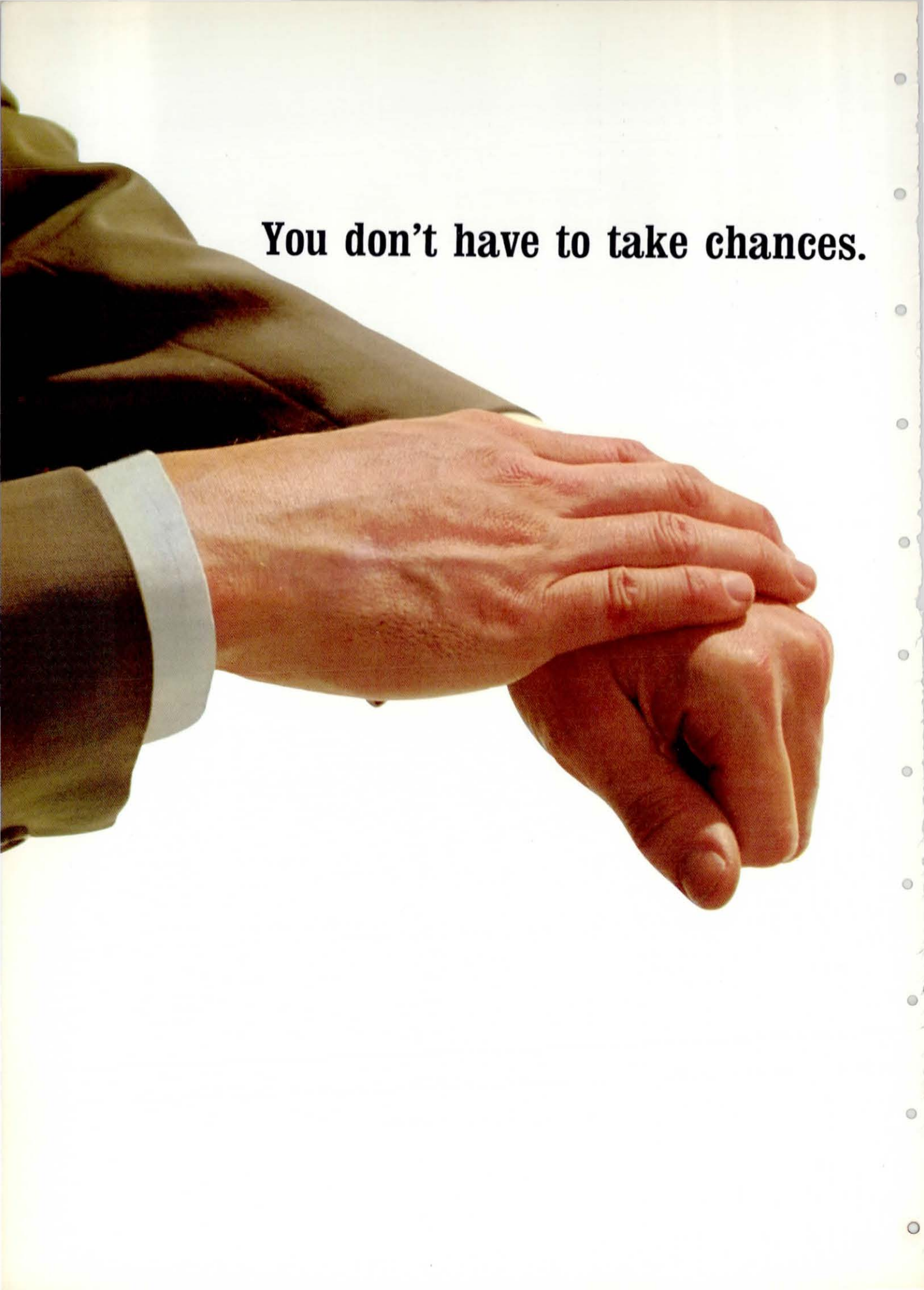
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Automatic car identification systems can pay for

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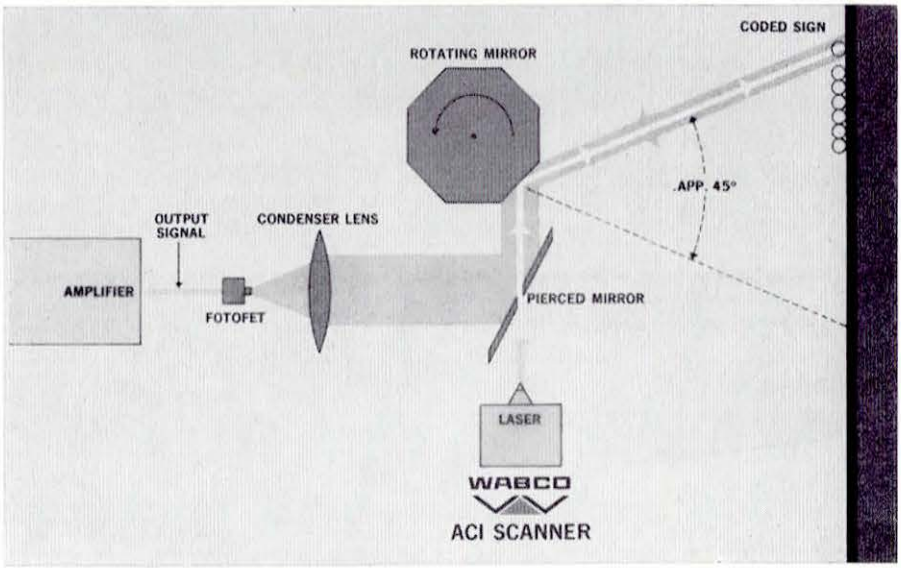
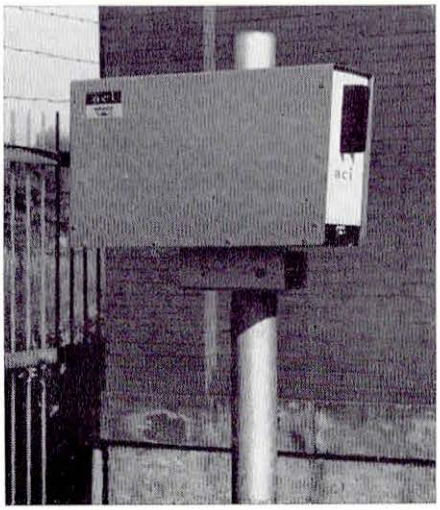
● **Sylvania uses light.** A light-reflective optical system is the basis of Sylvania's ACI equipment. The light source is a high intensity white lamp, light from which is reflected from the surface of a partially silvered mirror toward a multi-faced rotating mirror.





WABCO SYSTEM

The light source, a laser, produces coherent light in a bundle of parallel rays. Binary coding is used in the horizontal striping (vertical scanning). Stripes are alternately reflective and non-reflective in a binary code pattern of standard teletypewriter format. WABCO's scanner is a solid-state device using integrated circuits in the logic portion. Scanning is vertical so that a single reading head will scan trailers, containers and piggyback cars.

themselves

The mirror causes the light beam to scan the car vertically for a height of 8 feet.

The light beam is reflected back upon itself by the 3M Co. retro-reflective horizontal stripes comprising the label on the car. The stripes are made up of color combinations of black, blue, orange and white.

The light beam reflected from the car label strikes the rotating mirror, passes through the partially-silvered mirror and is focused to pass through a slit that permits observation of one stripe of the label at a time. The beam then passes to a dichroic mirror which transmits orange light and reflects blue light. Orange light passes through the dichroic mirror on through an orange filter and to a photomultiplier tube. Blue light is reflected by the dichroic mirror to a blue filter which passes it to another photomultiplier tube.

● **Electricity from light.** The photomultiplier tubes receive light and produce an output voltage. The orange photomultiplier tube will detect orange light in the reflection from the orange and white labels. The blue photomultiplier detects blue light in the reflection from the blue and white labels. No color is reflected by the black label stripes. Hence, neither photomultiplier will detect a signal. Thus, a blue stripe actuates the blue photomultiplier, an orange stripe actuates the orange photomultiplier, a white stripe actuates both photomultipliers, and a black stripe will not actuate either.

The logic circuitry accepts electrical outputs from the photomultipliers and thus determines the color of the stripes. Each numeral is represented by a two-colored stripe in a two-out-of-four code. Because this code is of numerals only, the 3-digit AAR accounting code, plus an arbitrary zero placed in the first position, represents car initials. An electronic dictionary consisting of a Mylar magnetic recording plane provides the means of translating from the numerical readout to the prescribed four alphabetic initials.

The validity check of the car label is carried out by means of the check digit which comprises the eleventh digit of the label.

Temporary storage for all the identification numbers of two 200-car trains is provided by means of a magnetic tape buffer.

● **Retro-reflective label.** The label consists of combinations of colored 3M Scotchlite retro-reflective stripes. There are 10 combinations of two colors available. Each combination is imprinted with its numerical equivalent. Each digit is a two-part signal consisting of the color reflected back by the horizontal stripe (scanning is vertical).

Labels are applied in a manner similar to that used for decals. The surface of the car is first cleaned. A primer is then applied. The digits are pressed into place (the stripes have an adhesive backing) one above the other in a vertical array. A sealer is applied around the adges of the completed label. Finally, a protective fluorocarbon coating is applied, which helps preserve the label and assists in self cleaning.

● **Wabco uses laser beam.** A helium-neon gas laser (300 microwatts) is the source of light in the ACI system developed by WABCO's Union Switch & Signal division. The laser beam has the property of concentrating a high proportion of its energy into an extremely small beam. The emitted beam is essentially a parallel bundle of rays.

The laser beam is directed through a small aperture in a fixed mirror to a small multi-faced mirror rotating at 3,600 revolutions per minute. Each face of the mirror sweeps the laser beam through a vertical arc of 45 degrees. The rotational speed and number of mirror surfaces combine to sweep the laser beam across the 6-inch-wide car label a minimum of four times at a train speed of 80 mph.

● **Reflected light.** The light beam is reflected back on itself by the car tag with a one-degree divergent angle. From the rotating mirror, the beam strikes the fixed mirror. Because it is now larger in diameter due to the divergent angle, the beam is reflected at 90 degrees and is focused by a single lens onto a photo field effect transistor. The resulting beam of energy on the transistor drives it into the conducting state permitting a pulse of current through the circuit.

The circuit then samples the received pulse train at regular intervals to determine whether a binary one or a binary zero is being received. The signal from a binary one is sensed in two consecutive time periods, that from a binary zero in one time period only.

The label is composed of alternate stripes of reflective and non-reflective Scotchlite material. The reflective material gives a positive pulse in the logic circuitry; the non-reflective material gives no signal. The code groups of the label, arranged in standard Teletype form, require no code conversion to operate a 5-level Teletype printer.

● **Validity checking.** The message as received in the logic unit is first checked for a minimum bit count. Other validity checks are made, such, for example, as determining total bit count. During the multiple scanning of the label (it may be scanned a minimum of four times), the message is stored and compared with subsequent readings. When coincidence is reached on at least two scans, the message is transmitted. Further signals are rejected until a new label passes the minimum coincidence reading. If majority voting does not establish a correct message, the error symbol is added to the message.

The Wabco ACI system uses the 3M Co. Scotchlite retro-reflective stripes with non-reflective material between them. These are horizontal stripes (vertical scanning) with an adhesive backing.

● **Accessories available.** The present field tests will use a conventional Teletype printout. All three manufacturers, however, can provide other types of printouts or transmission speeds if needed.

Although temporary storage capacity is now in the two-train limit, greater temporary storage before transmission will be available. ■

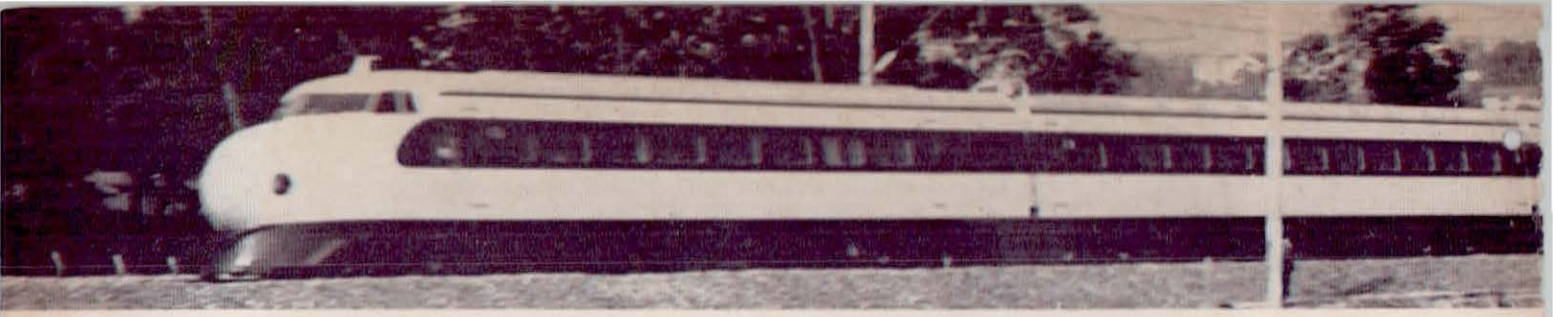
HOW ACI CAN CUT COSTS

Automatic car identification systems can pay for themselves. This positive outlook for ACI benefits was proclaimed at last fall's Data Systems Division annual meeting in Washington. W. H. Thompson, head of DSD's Ad Hoc ACI committee, reported on studies made to determine ACI benefits. Assuming that ACI standards have been accepted and the national car fleet has been labeled, use of six ACI scanners at one retarder yard would bring about a 60% reduction in yard clerical costs for a net savings of $108,000 per year.

Car accounting benefits. In another study of one railroad's operations involving open car records, it was determined that $100,000 of labor costs could be eliminated if ACI were in operation at points of interchange.

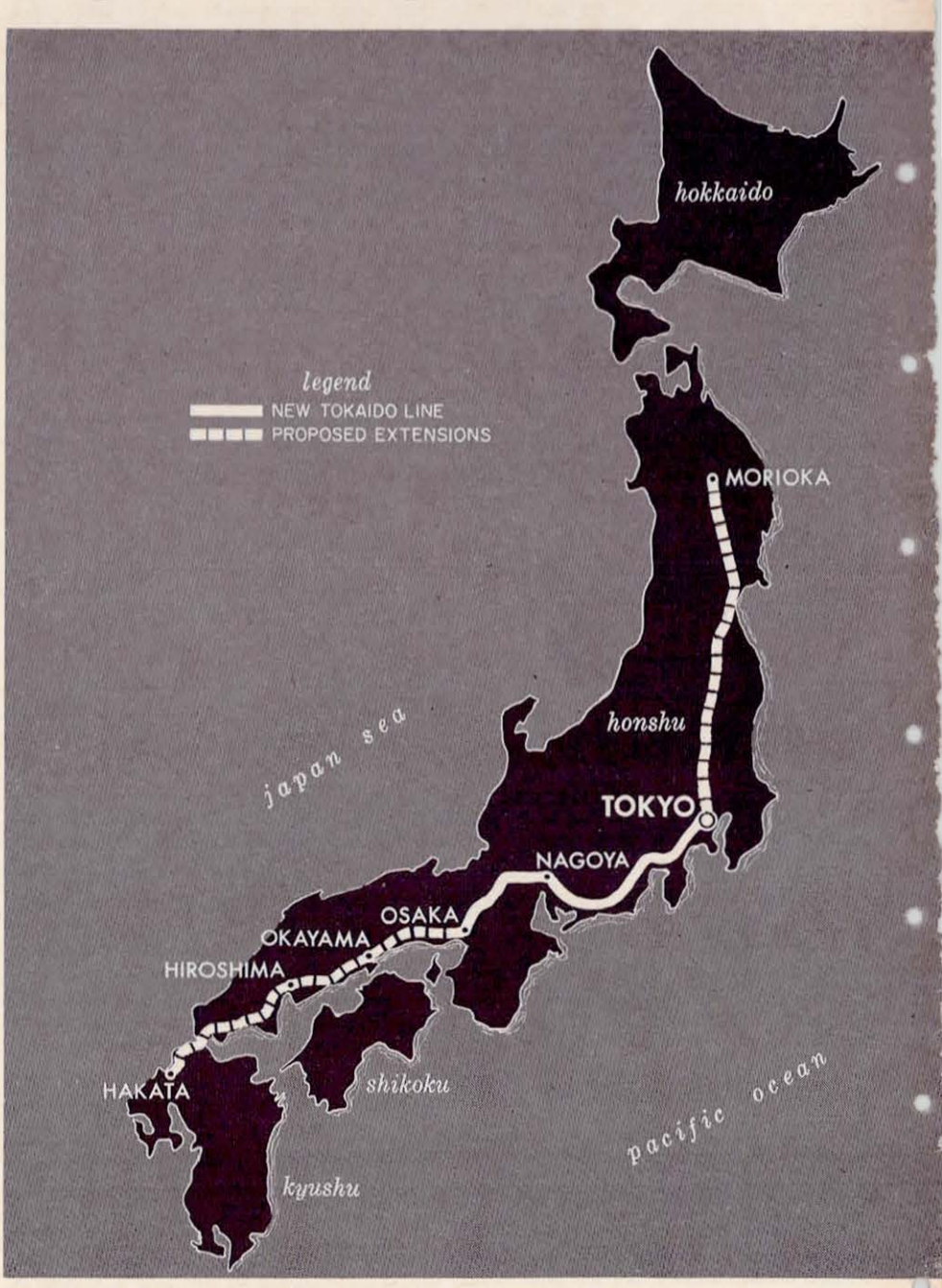
On the same road, the manual audit of per diem and mileage payable now involves 32 clerical assignments, at an annual expense of $208,000 in labor and material. Through use of an accurate ACI system, 26 positions and $175,000 annual cost could be eliminated.

In addition, 20 clerical assignments are made by the road for the audit of per diem receivables. Sixteen of these assignments representing $104,000 annual expense could be eliminated by an ACI system.



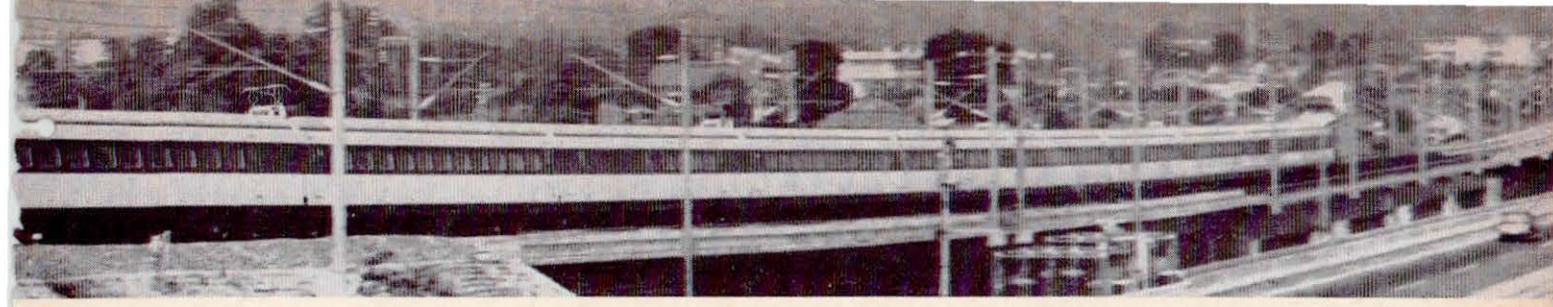
New Tokaido Line: Japan's billion-dollar gamble pays off

With the Canadian National soon to launch high-speed service between Montreal and Toronto, traffic men north of the border are interested in all aspects of high-speed operation. The Canadian Railway Club asked RA Publisher Robert G. Lewis, who has inspected Japan's famed New Tokaido Line, to describe that operation. The accompanying article is an abridgement of his remarks.



Proof of Success: More money for more lines

First planned extension of the New Tokaido Line will be 100 miles west from Osaka to Okayama, a $472-million project due for completion in 1972. In the next two stages, western extensions are planned to Hiroshima, then to Hakata, for total added length of 400 miles. Farther in the future is a proposed extension northward from Tokyo to Morioka, 330 miles.



By ROBERT G. LEWIS

Those people who say that orthodox railway technology is on its way out had better think twice: The Japanese National Railways just celebrated the second anniversary of their billion-dollar New Tokaido Line with an announcement of big expansion plans.

Birthdays are a time for stocktaking. Has the NTL lived up to expectations? Is it proving that high-speed super-railroads can hold their own today? The answer to both questions has to be an emphatic yes.

● **A money-maker.** If anything, the hopes placed in the NTL when construction began in 1959 were scaled too low: Since the Line's opening in 1964, public acceptance has been so great that it is going to be more than tripled in length in the coming years.

The NTL is making money, too, and paying off its investment at a surprisingly fast rate. To top things off, the domestic Japanese airlines are feeling the pinch of competition as they've never felt it before.

Is the NTL the sort of super-railroad that Katy President John Barriger has been calling for for so many years? In many ways, yes: Here is a high-speed, grade-separated super-express service linking several major urban centers in an operation that is a model of efficiency.

● **Showing the skeptics.** Whether we get something like that in the U.S. is still not settled, because a great many people—including some in Washington—are not convinced it is feasible. The point is made (and accurately) that conditions in the two countries are not completely analogous. For example, Japan had to relieve pressure on a line already operating at or near capacity. Our own existing lines operate at far below capacity. It should be remembered, though, that before JNR began building the NTL, there were plenty of skeptics in Japan, too.

Some were elected officials, some were in the Ministry of Transport. Among the arguments they raised were: (1) The NTL would be too expensive to build; (2) it would be too much of a long shot in terms of what might be gotten out of it; (3) highways should be given priority over rails; (4) conventional duo-rail systems were about to give way to exotic new systems—monorail and the like.

There were even some who joked about the idea and said JNR was going to build something as ambitious as the Great Wall of China or the Pyramids—but without their advantages as a sightseeing attraction.

● **80% more traffic.** JNR overcame the skeptics and went ahead with the project. Here are the results:

Two years after going into service, the NTL has carried over 62 million passengers for a total of 19 million train miles. Total rail traffic on the route between Tokyo and Osaka has gone up 80%.

The record for a single day was set last Oct. 10, when 199,500 passengers were carried; otherwise, the daily weekday average is 100,000 passengers, and the weekend average is 10,000 more than that. And it is still growing.

The original 360-car order was increased to 480—then followed by a further order of 120 cars, for a total fleet of 600 cars on this one 320-mile route. The trains run in consists of 12 multiple-unit cars. All axles are powered.

The number of round trips, originally 30 each day, was increased about a year ago to 55, then to 60. The Tokyo-Osaka run is made in 3 hours 10 min by the Hikari super-expresses, which make two stops along the way. The Kodama expresses take 50 min more, making ten stops on the way.

There are no grade crossings of any kind, and curve radii nowhere are less than 8200 ft.

● **Safety — plus performance.** The NTL is a one-speed railroad: Except for speed restrictions within Tokyo, all expresses and super-expresses operate on the line at 125 mph. Average running time for the super-express is over 100 mph.

The safety record is outstanding: No serious accidents of any kind, and minor accidents at a rate less than one third the JNR system-wide average.

The performance record is outstanding, too. In December 1965, for example, right after the 3 hour 10 min schedules were put in effect, there were some very severe snowstorms and during that month these trains arrived at their terminals—Tokyo or Osaka—an average of 5.7 minutes late. But for

NTL will pay for itself in seven more years

these 120 trains in April 1966, the average delay was only six-tenths of a minute. The technical problems have been minimal and they mostly involved settling of the track and problems relating to the catenary.

The two domestic airlines that fly between Tokyo and Osaka have been hit by NTL competition. Their load factors fell from an average of 75% to below 50%, and they were forced to pool operations and cut fares.

● **Big dividends ahead.** On the financial side, the story is just as impressive. According to JNR officers, the $1-billion-plus cost of building the NTL can be paid off in just seven more years, and then start bringing in big dividends. These won't show up as profits, of course—they'll just be ploughed back into upgrading other JNR lines that didn't get the "star" treatment.

It is also worth pointing out how much the tune has changed since the days a decade ago, when JNR had a hard time raising money to build the NTL. The government was chilly, institutional investors likewise. An arrangement was finally worked out whereby bonds were issued for the bulk of the construction cost, with an 8% contribution in the form of a World Bank loan.

Times have changed. On the basis of the whopping success the NTL has had, there are many institutional investors who would be only too glad to participate, where expansion plans are concerned.

JNR will finance directly out of its own funds the $472 million cost of the first expansion phase—extension of the Line west from Osaka for 100 miles to Okayama. That segment—which will include 30 tunnels, one of them ten miles long—should be ready for service by 1972. In the next stage, the Line will be extended still further west to Hiroshima, then finally to Hakata on the island of Kyushu, for a total added length of 400 miles.

At its eastern end, the NTL may extend north from Tokyo 330 miles to Morioka. If all extensions east and west are completed, the NTL will be 1,050 miles long.

● **The options.** An important thing to be kept in mind is the number of options JNR had when the NTL was still just a blueprint. There are many other turns in the road they could have taken—and why they decided to do things one way and not another is a story in itself.

First, there is simply the fact that they decided to build a wholly new Tokaido Line, instead of just putting more tracks parallel with the Old Tokaido Line. The latter was being superseded because its capacity was saturated, not because it was in bad condition. The older route was double-tracked and electrified all the way, there was multiple trackage in built-up areas, and fairly modern signaling and roadbed.

It was felt that patching up methods just to ease bottlenecks might be cheaper in the short run, but would be a lot more expensive at the end, since new bottlenecks keep cropping up anyway, and the chance to build an advanced railroad would be thrown away by having to conform to the standard of existing lines, especially the 3 ft 6 in gauge.

Second, it was decided to sort out different kinds of traffic—put express passenger and eventually express container service on the new high-speed line, and free the old one for conventional freight and local passenger runs.

Third, it was concluded that since express services would bypass a number of cities along the way, there was no need to exactly parallel the old line. As a result, the NTL route could be much more direct, cutting 35 miles from the old line.

Fourth, grade crossings could be absolutely eliminated. This, together with the straight trackage, would do a lot to enhance speed and safety.

Fifth, it was decided that the new line would be completely independent of the rest of JNR, and have no interchanges with the old line. The reasoning was that building a brand-new line relieved the need for compatibility with the old, and provided a golden opportunity for innovation.

The sixth was the decision to adopt standard gauge, instead of JNR's usual 3 ft 6 in gauge. With no physical connection to the other lines, this was another opportunity to enhance speed and stability, and therefore capacity and safety.

● **The payoff.** The end result—five years and over a billion dollars after work began—was a completely new, standard gauge, electrified double-tracked system.

What are the special features of the NTL? The Line is under automatic train control. The ATC system has an interesting override safety device; in the event of an emergency, the engineman on the train can flick a switch and de-energize both tracks at both ends of the train for 35 miles. Also, every 150 ft along the fenced right of way there is a switch for a trackwalker or section man to do the same thing.

Signaling is by CTC, all of it controlled from a master panel in Tokyo. All rail from one end of the line to the other is welded in 4800 ft lengths. The entire Line is laid on pre-stressed concrete ties, except at switches and steel bridges. The ties are fastened to the rails with adjustable wedge blocks.

Instead of a locomotive for traction duties, all cars were arranged as permanently coupled multiple-unit sets, each car having all powered axles. Every second car has its own pantograph.

Unlike older JNR lines operated on 1500 V dc, the NTL runs on 25 kV commercial cycle ac.

Trucks are air-sprung and were originally designed for the old Tokaido Line; with adjusted traction motor gear ratios, they serve the new one. Deceleration for service stops takes 1.45 minutes, or 70 seconds in emergencies; dynamic brakes bring the train down to 45-50 mph, at which point normal air brakes take over.

The trains are air-conditioned, equipped with buffet facilities, reclining seats, picture windows, and very modern interior design. Louvers arranged along the top of each car open and shut, actuated electronically by wayside devices, when trains enter and leave tunnels—to eliminate air-pressure discomfort at high speeds.

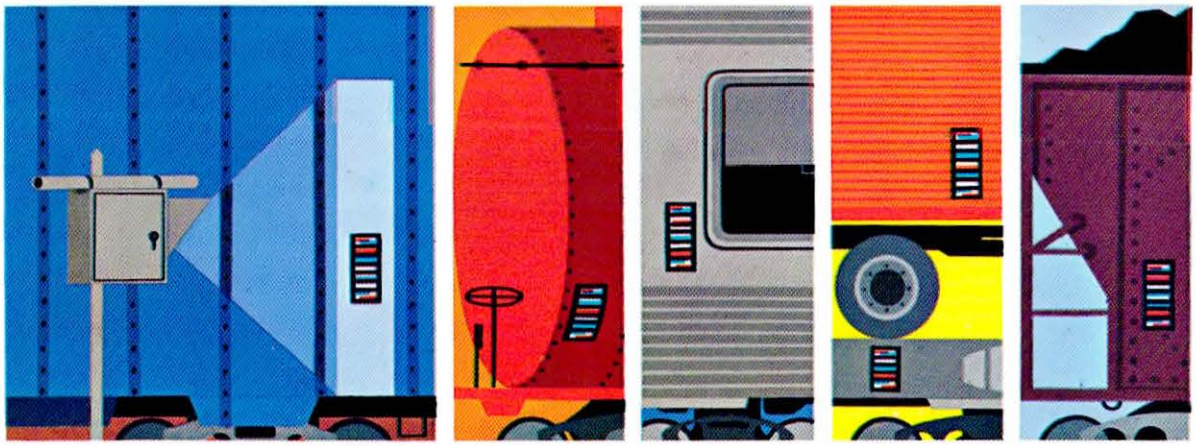
● **Learning from experience.** In extending the New Tokaido Line, what will the Japanese do differently—in view of their experience so far? Hideo Shima, who was chief engineer of the JNR during construction of the New Tokaido Line, tells me that for one thing they will find ways to build track that will prevent settlement problems. A great deal of the present line is on an elevated structure; and, of course, where there is an elevated structure there hasn't been a track settlement problem. So to the extent possible, the proposed extensions—where not in tunnels or on bridges—will be elevated.

A major difference in the extensions will be that the maximum curvature will be restricted to a 13,120-ft radius instead of the 8,200 ft prevailing on the present line; this will permit an increase in maximum speed.

● **Effects of high speed.** What about the quality of the ride at present speeds? The best answer to this lies in the fact that many Japanese (who ride the new

(Continued on page 30)

The KARTRAK* ACI System's vertical scanner lets you label box cars, tank cars, passenger cars, piggybacks, coal cars, all cars—anywhere within a 6-ft. vertical range.



We read up and down while trains go back and forth.

And we can read whether a train's travelling at high speed or at a slow crawl. With vertical scanning, permanent multiple labels can be used to transmit great amounts of information. Variable information labels can conveniently be placed on a single car (for example, train number hung outside engineer's window). And the distance between the scanner and label is not critical.

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Our system can be programmed to give you any kind of selective data. Dates, time, light weights, names of railroads, train direction, contents or types of cars.

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WATCHING **WASHINGTON** WITH WALTER TAFT

TAFT

BOYD TAKES OATH OF OFFICE—President Johnson last week made quite a production out of having Alan S. Boyd sworn in as Secretary of Transportation. The oath-taking ceremony was held Jan. 16 in the White House's East Room before an overflow audience of government officials, members of Congress, shipper representatives, and management and labor leaders of the transportation industry.

Boyd will head the Cabinet-level Department of Transportation which Congress created last year. He comes to the new Department from the Department of Commerce, where he has been undersecretary for transportation. He is also a former chairman of the Civil Aeronautics Board. Commerce's transport units, including the Bureau of Public Roads (but not the Maritime Administration), will go to DOT. It will also get transport functions of various other federal agencies—except regulatory functions of the ICC, CAB and Maritime Commission.

ENJOYABLE TASK FOR LBJ—The oath was administered to Boyd by Judge John R. Durfee of the United States Court of Claims, one of Boyd's predecessors in the CAB chairmanship. At the swearing-in ceremony, President Johnson spoke briefly, saying he had lately done nothing he enjoyed more than welcoming to his Cabinet such an "outstanding and distinguished public official."

The President went on to recall what he said last November when he tapped Boyd, i.e., that he had caused a diligent search to be made and found the "most competent man" for the job. The President also said there were no pressures to name any other prospect. LBJ then quipped that his credibility might be attacked for saying that, because "someone might produce a letter."

FAST SENATE ACTION—The way was paved for the White House ceremony when the Senate gave expedited handling to the Boyd nomination. It was submitted by the President on Jan. 10, the day Congress convened. On the following day, the Senate Commerce Committee cleared it after a four-hour hearing. And Senate confirmation came the next day—Jan. 12. Now before the Commerce Committee are two other DOT appointments—Everett Hutchinson for undersecretary, and John E. Robson for general counsel (RA, Jan. 16, p. 11).

The committee hearing on Boyd was made lengthy by questions put to the nominee by senators representing states in the Great Lakes area. These questions were designed to make a record to the effect that Boyd should have what the senators regard as the whole picture when he is considering proposals to increase tolls on the St. Lawrence Seaway. Asked whether President Johnson will call again for new and increased user charges on other waterways, Boyd noted that every Administration has asked for them since 1949—so "it strikes me as a well-established trend."

RAILROADING AT DOT—Discussing the role of DOT's Railroad Administration, Boyd said it will be concerned with at least some aspects of the High Speed Ground Transportation Program, which will come over from the Department of Commerce. Whether RA will get all phases of that program is a matter "still up in the air."

Another RA responsibility will be the Washington end of the Alaska Railroad operation, which will come from the Department of the Interior. When Boyd announced this, one of Alaska's senators, E. L. Bartlett, who is a member of the Commerce Committee, broke in to express his hope that there will be no change in the status of the railroad's general manager. John E. Manley, whose headquarters are at Anchorage. Boyd reassured the senator, saying he, too, regards Manley as a most efficient railroader. So, he expects activities of the Washington-based officers to remain confined to annual inspection trips—"in summer."

Merger is called only hope for NH

Inclusion in the PRR-NYC system is essential to prevent liquidation, say the trustees.

Liquidation of the New Haven in a "gigantic distress sale" is the fate that awaits the bankrupt road if it is not reorganized and made a part of the Penn-Central system.

This was the dire forecast of New Haven Co-trustee Richard Joyce Smith last week as he testified at the opening session of ICC hearings on the plan of reorganization filed by the road's trustees. The plan calls for the sale of the line to the proposed Penn-Central system on terms agreed to by heads of the three railroads early last year.

"The New Haven, in our judgment, has no possible hope of any reorganization except to become part of the Penn-Central system," Smith told ICC Examiner Arthur S. Present, who is conducting the four-week hearings in New York's Biltmore Hotel. "Therefore, anything which endangers the creation of such a system equally endangers the possibility of a New Haven reorganization."

• **The bleak alternative**. Smith said that studies of the liquidation value of the New Haven have shown "that even an orderly liquidation would produce a net amount less than the consideration to be received from Penn-Central." The two larger railroads, in an agreement worked out last April, offered 950,000 shares of Penn-Central stock, $8 million in cash, $23 million in bonds and assumption of the New Haven's labor protection and pension costs estimated at $25 million.

Smith said that even assuming legal and economic considerations were satisfied, he would still have serious reservations whether liquidation would be feasible.

"The concept that an orderly liquidation of a railroad can be carried out is not historically sustained. The nature of railroad property almost necessarily makes the over-all liquidation a gigantic

distress sale. I am satisfied, apart from all social problems which would be the consequence of a liquidation, that liquidation of the New Haven would be unsatisfactory from a financial standpoint."

If the New Haven were to stop running the economic effect on the area it serves would be far-reaching, he said.

"The evidence makes it clear that the area would be blighted for generations. The consequences would reach homes, schools, banks and entire communities. The record is also clear that alternative modes of transportation could not substitute for a railroad as to important segments of the economy of Southern New England."

● **Five-year plan.** "We have now devoted more than five years to achieving the most expeditious reorganization possible of this railroad. We freely recognize that, but for the Penn-Central merger having been proposed, we would today be in most difficult straits insofar as being able to formulate any plan," Smith said.

He pointed out that a successful reorganization of the road could be effected through inclusion of the New Haven in the PRR-NYC system, and that the NH "would be improved, augmented and continued by a stronger carrier than ever before in the New Haven's history."

A two-part plan proposed

The trustees said that their plan of reorganization has a dual purpose: Sale of the railroad's properties to Penn-Central would achieve reorganization of the line's operations by assuring a continuation of vital services to the public; and distribution of the proceeds of the sale and of other NH assets would permit completion of financial aspects of reorganization in settling accounts with creditors.

As regards the second part of the plan, the trustees said that when determination is made of the rights and claims of all claimants, the total assets could be apportioned by a direct distribution in accordance with each party's equity. The corporation would then dissolve. An alternate plan would be for the road to recapitalize and maintain the corporation and its assets and then issue new securities to each claimant.

The trustees have said that the two-step plan is the quickest way to end the drain of deficits upon the assets of the road. It is also, they point out, the fastest means for including the line in the Penn-Central system. Under the two-step plan, the ICC would reconvene its hearings following the sale of the railroad so that approval could be given to the plan for satisfying the claims of stockholders and creditors.

Inclusion of the New Haven's operations in the Penn-Central system is in line with an order of the ICC made in conjunction with the approval of the PRR-NYC merger last year.

The four states served by the New Haven, and the Department of Justice are supporting the plan for reorganization and inclusion. The six railroads concerned with traffic protection are not opposing the plan nor the inclusion as such, although several of them have gone to court to oppose various aspects of the Penn-Central merger.

Various holders of New Haven securities have indicated that they will question the terms of the sale, its price, the postponement of a vote until step two of the plan, and the delay of a decision on distributing assets to a time subsequent to the sale of the road.

Three of the objectors have filed an appeal to the Court of Appeals in New York from a federal district court order permitting the trustes to file the plan of reorganization, and two other parties have appealed to the U.S. Supreme Court after a New York court turned down a request to enjoin the Penn-Central merger.

● **The financial situation.** Smith said the trustees this year "must plan on a cash loss which we expect would be the greatest suffered by the estate since 1961." It is estimated that this deficit will be between $5 and $8 million.

Rising labor costs have hit the New Haven hard, the trustees said recently, creating a cash emergency. They said it will be necessary to use money from the road's $4.5-million "burial fund" to replenish working capital. At the end of 1966 the road reported $11 million in working capital, which includes the $4.5 million fund created for emergency purposes in March 1965.

"The years 1968 and 1969, if forecasts were now made, must be anticipated to be at least as adverse on a cash basis as 1967, and more likely substantially worse," adds Smith.

● **Other matters to be considered.** The current hearings will also be concerned with other issues involved with the proposed merger of the New Haven with the Penn-Central:

—Possible indemnities to protect the New Haven against freight losses until it is included in Penn Central.

—Protection of other railroads from traffic losses that may result from inclusion of the NH in the larger system.

—Conditions for transferring the motor carrier operating rights of the New England Transportation Company —run by the NH—to the Penn-Central.

—Provision of labor conditions to protect New Haven employees. ■

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A "Town Meeting," CN style

Grass roots public relations blooms along the right of way.

WELCOME ABOARD is given community officials and shippers by CN men for "Town Meetings on Rails" program.

A giant rail system such as the Canadian National (stretching 24,588 miles coast-to-coast) can sometimes lose touch with the communities and the people it serves.

This was one of the big complaints about the CN before it was reorganized in 1961 into five regions and 18 areas. Since that time, changes in the administrative structure, which brought about a decentralization of authority and a streamlining of operations, have done much to correct the situation.

To improve railroad-customer-community relations even more, CN men in the Rideau Area, with headquarters at Belleville, Ont., devised an approach all their own.

The idea was to stage a series of "Town Meetings on Rails" to literally take the CN to civic and industrial leaders and major shippers. The informal meetings—which include relaxed luncheons and talk sessions—take place in railroad cars moved from community to community along the line.

The meetings in a special coach and club car give the CN men an opportunity to do some grass roots public relations work, says one officer. Invited groups include civic leaders, shippers and members of the press, radio and television. They're shown a CN color film on what the railroad is doing system-wise, and specific local problems also get an airing.

"The meetings," says CN Rideau Area Manager Harry J. Fast, "have proved to be extremely beneficial." ■

A SPECIAL FILM on CN operations is shown to invited guests.

Japan's new Tokaido line

(Continued from page 26)

trains partly for the thrill of riding at 125 mph) often ask the conductor, "When are we going to get up over 60?" There is no sensation of speed.

JNR has done considerable research on speed in its laboratories and the findings are interesting. Take rail deflection, for example. Rail deflects under the weight of a train, creating a vibration, and at a certain speed this vibration would have an adverse effect on the rail. JNR tests have established that this critical speed would not be reached below 1,080 mph.

A more realistic problem—but at the present time, still an academic one—is the fact that the present catenary will not stand speeds of more than 240 mph, again because of vibration. This could be remedied by a rigid catenary or overhead third rail.

An even more realistic speed consideration involves adhesion. Under least favorable track conditions you run into slippage at over 200 mph. This can be overcome by turbojet propulsion: there are no adhesion problems; the train is propelled by jet stream.

The most urgent speed restriction is, of course, imposed by track curvature. On the present line, it's felt that 140 mph is the fastest speed at which curves can be negotiated without passenger discomfort, which occurs long before a safety problem is encountered.

For practical purposes, this relatively intangible factor—passenger comfort—has been the most important speed consideration. It has been JNR's experience that passengers begin to feel some discomfort from vibration at speeds in excess of 138 mph. This can be overcome by improved track maintenance and this, in turn, can come when the roadbed is completely settled. If the track is improved so that vertical deviation is less than 5/64th of an inch in 30 linear feet trains can go 210 mph without any passenger discomfort.

• **Lessons for U.S.?** Why is a railroad 8,000 miles away so important to us? Here are some answers:

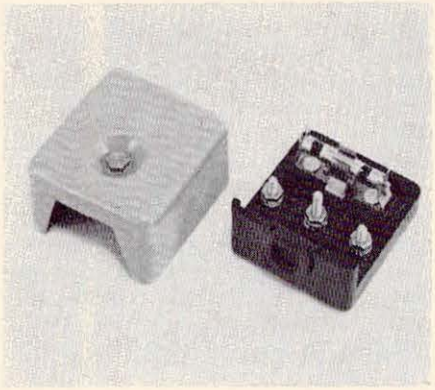
—The NTL is the product of orthodox rail technology refined for a specific job. JNR's Technical Institute has a staff of over 900 engineers and other experts who looked over all the alternatives, then chose to build a conventional duo-rail system.

—The region served by the NTL makes up only 7% of the land area of Japan, but it accounts for 40% of the population and 70% of industrial production. But congested traffic corridors are not peculiar to Japan.

—If the NTL had offered passengers just speed, or just comfort, or frequent schedules, or moderate fares, its chances of success would have been much more doubtful. But the combination of all four turned out to be a winner.

—JNR's New Tokaido Line is earning handsome returns on a big investment. It is both a technological and an economic success. ■

NEW PRODUCTS REPORT



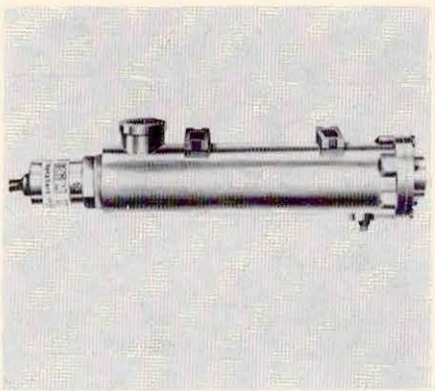
Station Protector (RA-1)

The type 300 protector incorporates the AEI type 16 three-electrode gas arrester and provides a reliable, service-free protector in high-lightning and high-priority curcuit areas.

It has application in open-wire carrier circuits, cable junctions, station protection and other arrester applications. The type 300 protector is designed to meet UL-497 and REA specification PE-42 fire hazard requirements. This is possible by the use of a heat-sensitive fusible spacer which actuates a shorting bar to ground both lines permanently during a sustained overload condition such as occurs when a high-voltage power line shorts the telephone cable. The spacer is easily replaced, returning the line to service.

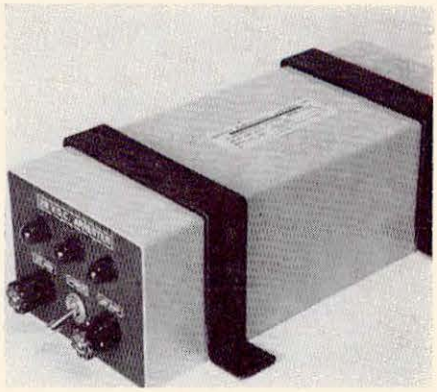
The AEI type 16 gas arrester operates in less than one microsecond and will withstand repeated discharges of 100 Joules with a peak current of 20,000 amperes.

The type 300 station protector is available in three ranges of DC striking voltage: 300A (150-350 volts); 300B (300-500 volts) and 300C (500-900 volts). *Eugene Munsell & Co.*



Engine Preheater (RA-2)

The Model BC-110 water-jacket preheater is said to maintain gasoline and diesel engines at operating temperatures regardless of temperature change. It is designed for installation on 4- and 6-cylinder diesel engines and on gasoline engines of 800 to 1,200-cu-in. displacement. It is rated at 110 volts, 2,500 watts, and operates at 19.5 amp on either a-c or d-c at 25, 50 or 60 cycles. Preheater is thermostatically controlled. *Kim Hotstart Mfg. Co.*



Power Arrester (RA-3)

The 1000 series DC power arresters are designed to positively protect DC power equipment from transients and large overvoltages. The arrester operates as a 3-stage device using: (1) a gas filled, isotope-prompted spark gap for bypassing high energy transients; (2) A silicon controlled rectifier for low level clamping; and (3) A manual or self-restoring circuit breaker for current interruption. Critical voltage is 250 volts. *Joslyn Electronic Systems.*

Track Circuit (RA-4)

A new type of solid-state track circuit is said to eliminate insulated joints, bond wires, track batteries, shunts and not be affected by ballast condition. The circuit is based on the fact that as a metal wheel moves on a rail, noise, in the form of rail vibration, is generated. Modi circuit consists of a piezo-electric accelerometer, sensitive to displacement loads in the range of .001 G; a first stage amplifier, converting this output to sufficient levels to transmit and use; and a second stage amplifier-switch, conditioning the signal so that it's existence as an "on"—"off" function can be used in the control of a relay.

In practice, the system is an energized circuit, "on" until the presence of a rail vehicle is established, then switching "off" and duplicating a condition of component failure, loss of power, broken conductor, etc.

The movement of a train may be monitored, on approach for up to 1,800 feet at 45 miles per hour and on departure for a slightly greater distance, with this distance adjustable by variation in the amplifier gain, or volume control. *Racon Equipment Inc.*

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WEEKLY

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PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGE 31 MARKED RA-1 RA-2 RA-3 RA-4

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COMPANY .....

ADDRESS .....

CITY ..... STATE ..... ZIP .....

1/23/67

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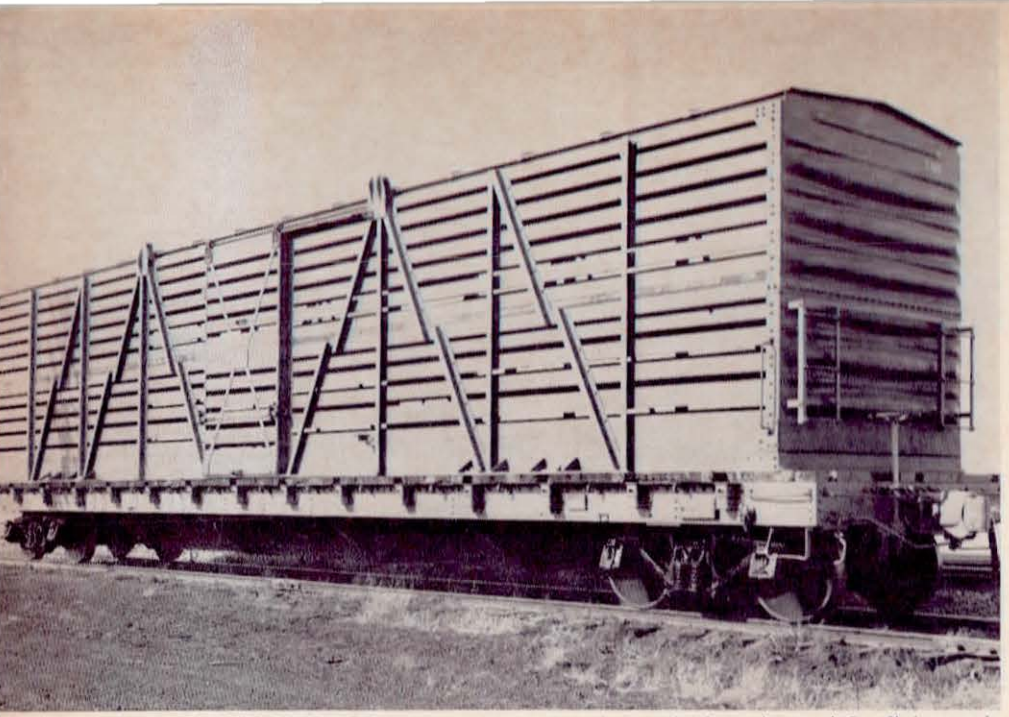


PROTOTYPE CONTAINER can be removed and stored when demand for flat cars is at peak. Entire superstructure weighs 17,900 pounds, can be handled by crane.

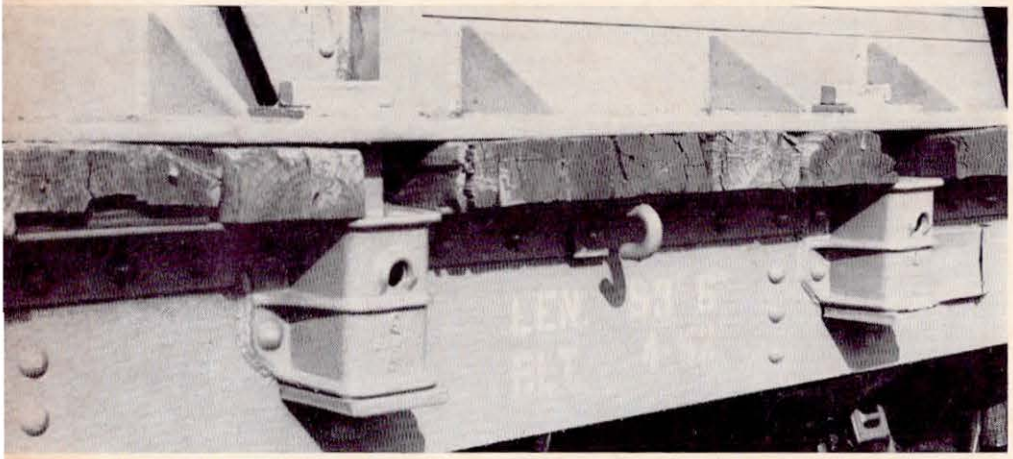
Livestock container goes on flat car

Burlington appraises potential for more intensive utilization.

Shippers of livestock are making good use of the Burlington's newest dual-purpose car. The prototype—a 50-foot slatted container, constructed at the road's Havelock shops—transforms a 53½-ft flat car into a 70,000-pound-capacity stock car.

A trial run of the unit was made on November 23 from CB&Q stockyards at Lincoln, Neb., to the road's stockyards at Montgomery, Ill. Aboard were 89 head of calves weighing 34,170 pounds. On the second trip, a typical load of 133 head of cattle and calves weighing 66,633 pounds was handled from Lincoln to CB&Q stockyards at Galesburg, Ill. Loading and unloading the cattle, plus performance of the car, was reported satisfactory by stockyards personnel.

The container superstructure has a lightweight of 17,900 pounds. It was built so that it can be mounted on any of 700 similar flat cars owned by the road. The flat car deck serves as the lower deck of the container. The built-in upper deck provides space in the lower part for carrying cattle, and in the upper part for calves. The car can also carry sheep or hogs on both decks. During spring and summer, when flat cars are needed for farm implements, the body is lifted off and stored.



ANCHOR PADS welded to container side sills are secured by T-bolts which extend through stake pockets on flat car. Car's deck serves as lower floor of container.

• **Rugged construction.** The container is within clearance plate B. It has Standard Railway Equipment's Dreadnaught steel ends, a diagonal panel riveted roof, and no running boards. The slatted sides are 5½ x 1¾-inch fir planks, generally spaced 2½ inches apart, and bolted to the vertical and diagonal side posts.

End and side sills of the container are 6- x 3½- x ⅜-inch channels. The 6-inch leg of the side sill channel is reduced to 1½ inches at the doorways. The top plates are standard 10.54-pound Z-sections. The end sills are welded to the container ends. Huck bolts are used at the corner posts and the top and bottom reinforcing gussets to the top plate and side sills. The vertical and diagonal posts are welded to the side sills and top plates.

The upper deck provides a 59-inch clearance from the flat car deck. It consists of 7¼- x 2¼-inch T&G fir planks laid crosswise. Each plank is fastened with watertight bolts to longitudinal 5- x 3½- x ⅜-inch angles welded to the superstructure on each side of the container. Minimum vertical clearance for the upper deck is 45 9/16 inches. Minimum doorway width is 60 inches.

A cradle-equipped crane is used to remove the container from the flat car. Hooks from the cradle engage 2½-inch diameter pins in the lifting eyes formed at the junction of the vertical and diagonal posts. The eyes are 8 feet 6⅞ inches each side of the transverse center line of the container on both sides.

• **Hold-downs are simple.** The container is held on the flat car with eight 3-inch-diameter T-head bolts, four on each side at the anchor pads. The pads span the third and fourth stake pockets from the end of the car on both sides and are welded to the side sills of the container. The bolts are placed through the stake pockets and secured with a plate washer and two hex nuts. To minimize side movement of the container, a shim is placed within the stake pockets to bring the bolts firmly up against the flat car side sill.

The container-mounted car was on exhibition at the American National Cattlemen's Association convention in Colorado Springs, Colo., from January 10 to 13. ■

John E. Corbett
FEC

R. W. Wyckoff
FEC

H. Edward Hales
FEC

Burton J. Worley
Milwaukee

Walter E. Fuhr
Milwaukee

Donald L. Wylie
Milwaukee

PEOPLE IN THE NEWS

CHICAGO GREAT WESTERN.—M. W. Davis named assistant freight traffic manager, Chicago, to succeed **S. A. Jones,** who retires Jan. 31 after 38 years of service. **J. S. Hookman** appointed assistant general freight agent, Chicago. **R. N. Bell** and **R. V. Holm** named district freight agents, Chicago.

COLUMBIA, NEWBERRY & LAURENS.—J. L. Williams appointed superintendent at Florence, S.C.

CONFERENCE OF EUROPEAN RAILROAD REPRESENTATIVES.—Joachim Wenzel, general representative for North America, German Federal Railroad, re-elected chairman of the CERR for another two-year term. **Onno Lee Baert,** general representative, Netherlands Railways in the United States and Canada, continues as treasurer. **Hans Baertschi,** managing director, Swiss Federal Railways, remains chairman, CERR Public Relations Committee.

DETROIT, TOLEDO & IRONTON.—Erling Westgaard, assistant district sales manager, Portland, Ore., promoted to district sales manager there, succeeding **Leonard A. Loken,** who retires Jan. 31.

DULUTH, MISSABE & IRON RANGE.—C. W. Bailey appointed director of safety and plant protection, Proctor, Minn. **R. J. John** named administrator of organization planning and salary administration, Duluth, Minn.

FLORIDA EAST COAST.—John E. Corbett, assistant vice president, St. Augustine, Fla., elected a director and vice president, with responsibility over traffic, industrial development and real estate. **Raymond W. Wyckoff,** vice president and director of personnel, has been given responsibility for transportation, personnel, legal, freight and general claims, and the special services department. **H. Edward Hales,** assistant to the president, elected vice president, with jurisdiction over engineering, maintenance of way and equipment, communications, purchases and accounting.

T. C. Maurer, vice president and chief freight and passenger traffic officer, and **Albert G. Hess,** secretary-treasurer, have retired. **Earl L. Masters,** comptroller, appointed secretary. **Raymond F. Colee,** assistant treasurer, promoted to treasurer.

GREEN BAY & WESTERN.—C. H. Halvorson, general manager, Green Bay, Wis., promoted to vice president—operation. Mr. Halvorson entered railroad service with this road in 1926.

GULF, MOBILE & OHIO.—H. W. Thomson, assistant general foreign freight agent, Mobile, Ala., promoted to foreign freight traffic manager there, succeeding **H. Harley Gibson,** who retired Dec. 31 after 54 years of transportation service, 32 of which were with GM&O and predecessor companies. **Lawrence C. Smith** and **Joe B. Askew** named assistant general freight agents, Mobile. **Norman R. Nelson** promoted to district freight agent, Jacksonville, Fla., succeeding **A. A. Anderson,** who retired Dec. 31, after 50 years of railroad service, 41 of which were with GM&O and predecessors.

INTERSTATE COMMERCE COMMISSION.—Merlin J. Daste, a member of the ICC's Fourth Section Board, Bureau of Traffic, appointed chairman of this board. He replaces **Ellsworth L. Patridge,** who retired at the end of 1966. **Erwin H. Bottamiller,** chief, Special Permission Branch, Bureau of Traffic, succeeds Mr. Daste. **W. Ford McKay** is the third member of this board.

Bernard A. Gould, assistant director, ICC's Bureau of Enforcement, named director, succeeding **Asa J. Merrill,** who became a member of Operating Rights Review Board No. 3. Director Merrill requested the transfer upon advice of his doctor.

KANSAS CITY SOUTHERN.—R. E. Zimmerman named assistant general counsel; **R. W. Spachman,** general attorney; **K. R. Lemke,** assistant general attorney, all with headquarters at Kansas City, Mo.

KANSAS CITY TERMINAL.—G. J. Barber appointed purchasing agent and general storekeeper, succeeding **W. W. Bell,** retired.

LEHIGH & HUDSON RIVER.—Emile Theodore, general freight agent, Pittsburgh, Pa., retired Dec. 31, after 32 years with the L&HR.

MANUFACTURERS RY.—ST. LOUIS REFRIGERATOR CAR CO.—Richard J. Jakle, vice president and treasurer, St. Louis, Mo., retired Dec. 31, after 46 years of railroad service. **Roy W. Chapman** elected treasurer and controller.

MILWAUKEE.—Burton J. Worley, engineer maintenance of way-track, elected vice president and chief engineer, with headquarters remaining at Chicago. **Paul L. Dempsey,** statistician for the safety department, Chicago, named assistant superintendent of safety.

Walter E. Fuhr, assistant chief engineer-signals and communications, Chicago, named assistant chief engineer-maintenance there. Mr. Fuhr's successor is **Donald L. Wylie,** communications engineer, Chicago, who in turn is succeeded by **Robert L. Hettrick,** assistant communications engineer, Chicago.

MISSOURI PACIFIC-TEXAS & PACIFIC.—W. J. Siering and **W. H. Rogers** appointed assistant vice presidents-sales, San Francisco and New York, respectively. Mr. Siering was formerly traffic manager-Pacific Region, and Mr. Rogers was traffic manager-Eastern Region. **E. Smith Reed,** director of industrial development, named assistant vice president-industrial development for system lines, St. Louis.

J. E. Riley named general agent, Oakland, Calif., to replace **Harold Fly,** who retired Dec. 31 after 50 years of service.

NEW YORK CENTRAL.—Jeremy Taylor, district transportation superintendent, New York, transferred to the western district at Cleveland, succeeding **Donald B. Ingold,** named general manager, **Peoria & Eastern. T. E. Jordan** appointed division superintendent, River Division, Weehawken, N.J., succeeding **J. T. Sullivan,** named district engineer, New York District, succeeding **R. K. Pattison.** Mr. Pattison appointed division superintendent, Hudson Division, succeeding **R. C. Harrison,** who replaces Mr. Taylor.

William K. Dice, district industrial engineer, Cleveland, appointed district supervisor of car utilization there. **Charles E. Boyd** appointed supervisor of car maintenance, New York.

Ralph R. Stucky, division engineer of track, Indianapolis, Ind., appointed district engineer of structures, Cleveland, succeeding **Charles E. O'Connor,** promoted.

NORFOLK & WESTERN.—Martin W. McMahon, Jr., inspector signals and communications, Roanoke, Va., appointed regional engineer signals and communications, Western Region, St. Louis, succeeding **L. B. Yarbrough,** retired (RA, Dec. 12, p. 47).

L. L. Callahan, Jr., trainmaster, Sandusky, Ohio, named agent-yardmaster, Winston-Salem, N.C., succeeding **Louis G. Grace,** named vice president and general manager, **Winston-Salem Southbound. James D. Mattox, Jr.,** trainmaster, Norfolk Division, Crewe, Va., transferred to Sandusky. **Frank L. Adkins, Jr.,** supervisor, regional operations center, Roanoke, succeeds Mr. Mattox.

John R. Turbyfill, general attorney, named assistant general counsel, Roanoke.

NORTHERN PACIFIC.—Richard A. Beulke, assistant secretary, named secretary, St. Paul, Minn., succeeding **Russell H. Dick,** who retired Dec. 1 after 50 years with the NP.

Masae Kitagawa will head a new sales office to open about mid-year in Tokyo, Japan. The new office will enable the NP to offer import and export shippers a complete and personalized service in the shipment of transoceanic and transcontinental

Freight and Passenger Car Charts

These charts are very helpful to AAR billing clerks, mechanical engineers, purchasing and stores personnel, car inspectors, write-up men, car foremen, and anyone else who needs a knowledge of car parts and their relation to each other.

The charts include a cutaway diagram of the car and a listing of important parts with arrows showing where the part is located. These charts are a part of standard training programs used on a number of major railroads.

$2 each

$10 for any six

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- ☐ **Air conditioned chair car, 1930 design (18x35 inches)**
- ☐ **Tank Car (22x35 inches)**
- ☐ **Refrigerator Car, wood sheathed, steel underframe, 1920 design (14x20 inches)**

RA 11/28/66

Name_____

Address_____

City_____ **State**_____

_____ **RR**_____

Richard A. Beulke
NP

Donald B. Ingold
P&E

John H. Hester
Seaboard

T. Carl Wheeler
Seaboard

raw materials and finished goods.

PEORIA & EASTERN.—Donald B. Ingold appointed general manager, Indianapolis, to succeed the late **William A. Sprunk**. He was formerly Western District transportation superintendent, **New York Central**, Cleveland.

READING.—John M. Wetzel, supervisor track, Pottstown, Pa., appointed engineering assistant—purchases and stores, Reading, Pa., reporting to purchasing agent.

ROCK ISLAND.—Samuel J. LaRocca named assistant to manager, Real Estate and Tax Department, Little Rock, Ark., to succeed the late **Leonard Olson**.

SANTA FE.—Robert P. St. John, general agent, Pittsburgh, promoted to regional traffic manager there.

D. W. Teel named assistant superintendent, Kansas City division, Argentine, Kans. **D. E. Bergerhouse** appointed acting general transportation inspector, Topeka, Kans., to succeed **D. L. Caywood**, assigned other duties.

SEABOARD.—John H. Hester, superintendent, Savannah, Ga., named assistant general manager, Jacksonville, Fla., succeeding **James L. Cooke**, retired. **T. Carl Wheeler**, terminal superintendent, Hamlet, N.C., replaces Mr. Hester at Savannah. **Elton L. Cook**, terminal trainmaster, Hamlet, succeeds Mr. Wheeler as terminal superintendent there.

John C. Featherston, Jr., assistant to general manager freight sales, Richmond, Va., appointed assistant to vice president—freight traffic there, succeeding **Bernard J. King**, retired. **Fred R. Edwards, Jr.**, general agent, Chattanooga, Tenn., named district freight agent, Jacksonville. **J. Frank Barnes, Sr.**, commercial agent, Atlanta, appointed district manager freight sales, Chattanooga, succeeding Mr. Edwards.

(Continued on page 37)

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended Jan. 14 totaled 542,193 cars, the Association of American Railroads announced on Jan. 19. This was an increase of 90,736 cars, or 20.1% compared with the preceding week; a decrease of 2,363 cars, or 0.4% compared with the corresponding week last year; and an increase of 9,826 cars, or 1.8% compared with the equivalent 1965 week. Ton-miles generated by carloadings in the week ended Jan. 14 are estimated at 14.1 billion, an increase of 2.1% above the corresponding week of 1966, and 11.6% above the 1965 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Jan. 14

District	1967	1966	1965
Eastern, including Allegheny and Pocahontas ..	217,466	216,512	213,725
Southern	117,539	115,862	110,097
Total Eastern and Southern Districts	334,998	332,374	323,822
Northwestern .	61,230	60,482	59,971
Central Western	108,947	112,003	112,426
Southwestern .	37,018	39,697	36,148
Total Western Districts	204,195	212,182	208,545
Total All Roads	542,193	544,556	532,367
Commodities:			
Grain and Grain products	55,029	61,781	50,773
Livestock	1,966	2,021	2,639
Coal	114,696	111,795	103,530
Coke	7,241	8,201	9,071
Forest Products.	39,305	39,505	38,143
Ore	17,325	15,668	15,729
Merchandise l.c.l.	5,221	6,571	9,651
Miscellaneous .	301,410	299,014	302,831
Jan. 14	542,193	544,556	532,367
Jan. 7	451,457	508,282	531,058
Cumulative total, 2 weeks	993,650	1,052,838	1,063,425
Estimated revenue 2 weeks	ton-miles (billions) 25.8	26.7	25.1

PIGGYBACK CARLOADINGS— U. S. piggyback loadings for the week ended Jan. 7 totaled 17,823 cars, carrying 28,483 trailers, compared with 18,179 cars, carrying 29,577 trailers, in the corresponding 1966 week.

IN CANADA — Carloadings for the ten-day period ended Dec. 31, 1966 totaled 80,358 cars, compared with 74,804 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Dec. 31, 1966.....	80,358	30,491
Dec. 31, 1965.....	93,595	32,043
Cumulative Totals		
Dec. 31, 1966.....	4,032,983	1,258,604
Dec. 31, 1965.....	3,980,793	1,250,916

PIGGYBACK

► *Pacific Fruit Express.*—Has acquired 110 highway trailers for piggyback service. The new units are equipped with plastic linings and extruded aluminum floors. Twelve of the trailers have nose-mounted refrigeration and detachable wheels for conversion for use as containers, and are equipped with meat racks. The remaining 98 trailers have underslung diesel-electric drive refrigeration systems and can be operated with either deisel or plug-in electric power. They are equipped with the "Oxytrol" system which utilizes liquid nitrogen to prolong shelflife of perishables.

CAPITAL EXPENDITURES

► *Alaska.*—Has budgeted $4,315,000 for capital improvements in fiscal 1967, of which $1,947,000 is earmarked for equipment and $2,368,000 for fixed property. This compares with capital expenditures totaling $1,965,000 in fiscal 1966. The increase in fiscal '67 is due primarily to resumption of programs and projects that were deferred because of the 1964 earthquake.

► *Denver & Rio Grande Western.*—Will spend $11.8 million on new equipment and $3 million on fixed property improvements in 1967, for a total of $14.8 million. This compares with a capital budget of $18.6 million in 1966. Experience indicates that supplemental acquisitions during the year may result in a higher actual figure for 1967.

► *Long Island.*—Plans capital expenditures totaling $814,000 in 1967, compared with $956,300 in 1966. A number of projects are being held in abeyance pending completion of engineering studies covering improvements proposed by the Metropolitan Transportation Authority.

► *Louisville & Nashville.*—A 1967 capital budget of $63.25 million includes $48.9 million for equipment. This compares with capital expenditures of $78.216 million in 1966, of which $66.716 went for equipment.

► *Milwaukee.*—Capital budget for 1967 calls for expenditures totaling $34 million ($25 million for equipment and $9 million for fixed property improvements), compared with $44.166 million in 1966. Additional equipment may be purchased or leased later in the year.

NEW FACILITIES

► *Reading.*—Portions of the elevated track structure leading into Reading Terminal in Philadelphia will be reconstructed at a cost of $1.8 million. Work on the 18-month project will get under way immediately. Funds are being provided by a $900,000 federal grant to the Southeastern Pennsylvania Transportation Authority (SEPTA), and with $300,000 contributed by the State of Pennsylvania, $360,000 by the City of Philadelphia, and $240,000 by the Reading. If the viaduct reconstruction had not been undertaken, Reading would have had to eventually reduce its capacity for handling peak commuter service by 50%, according to SEPTA General Manager Gen. M. J. Reichel.

YOU OUGHT TO KNOW

B&O to sell grain facility: The Locust Point grain elevator at Baltimore, owned by the Baltimore & Ohio, will be sold to Peavey Company, a Minneapolis-based grain and milling firm. The elevator, built in 1924, will be taken over by Peavey on May 2. The company plans to modernize the facility. At present the elevator has a storage capacity of 3.8 million bushels, and is serviced by a pier with berthing space for four ships. B&O expects to realize a considerable increase in grain traffic as a result of the Peavey acquisition.

Bill to increase retirement benefits: Congress will be asked to hike railroad retirement benefits 20% in a bill prepared by Rep. Henry S. Reuss (D.-Wis.) A provision of the proposed legislation would provide for a cost-of-living increase that would automatically raise benefits each year by the same amount that prices have increased. Another bill sponsored by Reuss would give veterans on pension the full amount of their pensions without reductions because of the proposed increase in social security or railroad retirement benefits.

Education on the PRR: Pennsylvania employees who want to go back to school during off-duty hours to improve their professional and technological standing can now get financial help from the railroad. PRR Chairman Stuart T. Saunders said that employees accepted for the program will be provided tuition up to $300 a year for study at accredited colleges, universities and technical institutions. The courses are not to interfere with the employees' duties and must be related to his present position or to a potential future position. Applications are handled by PRR's labor relations and personnel department. Said Saunders: "The pressure of present-day competition and the pace of technological change require that all employees of all levels improve their performance and broaden their knowledge in preparation for additional responsibilities in the future."

December fines: Fines totaling $48,850 were paid in December by 33 railroads for violations of the Safety Appliances and Hours of Service Acts and regulations governing the transportation of explosives and other dangerous articles. Biggest payers, according to the ICC, were: Pennsylvania, $6,850; Missouri Pacific, $3,750; New York Central, $3,500; Southern, $3,000.

NP looks to the Orient: One of these days, there may be enough U.S. railroad representatives in Tokyo to form a club. Late last year, Union Pacific announced the opening of an office in the Japanese capital (RA, Nov. 28, 1966, p. 80) —and 1967 was only a couple of weeks old when Northern Pacific said it, too, will have a Tokyo office "to enable NP to offer import and export shippers a complete and personalized service in the shipment of trans-oceanic and transcontinental raw materials and finished goods." NP's operation, planned for a mid-1967 start, will be headed by Masae Kitagawa, whose background includes service with a number of ship lines and a 13-year assignment as an economic advisor in the American embassy in Tokyo.

Good year for Reading, but . . . : The Reading tallied up its income figures for 1966 last week, then announced that for the second year in a row it showed a net profit. Operations produced a profit of $1,733,000, compared to income of $2,904,000 in 1965 and a net loss of $5,400,000 in 1964. Although he conceded that the 12-month showing was a good one, Reading President Charles E. Bertrand said the year had some disappointing aspects: a drop in carloadings and a decrease of $400,000 in income from other sources. Net income on a consolidated basis, including results of nine subsidiaries, was $1.5 million—down more than $1 million from 1965.

Truck tonnage: Intercity truck tonnage in the week ended Jan. 7 was 14.1% above that of the previous week, and 6.2% ahead of the volume in the corresponding week of 1966, according to American Trucking Associations.

Current statistics

Net Income	
9 mos., 1966	$658,000,000
9 mos., 1965	542,000,000
Carloadings, revenue freight	
2 wks., 1967	993,650
2 wks., 1966	1,052,838
Freight cars on order	
Dec. 1, 1966	56,437
Dec. 1, 1965	42,089
Freight cars delivered	
11 mos., 1966	81,849
11 mos., 1965	70,110
Serviceable cars	
Dec. 1, 1966	1,420,553
Dec. 1, 1965	1,397,160

Elton L. Cook
Seaboard

Willis W. Bixby
TAA

SOO LINE.—W. H. Jewett named superintendent quality and budgetary controls, Minneapolis.

SOUTHERN PACIFIC.—R. B. Kelly and **J. J. O'Connor,** general freight agents, named assistant traffic managers—rates and divisions. **C. C. Broyles,** assistant general freight agent, appointed general freight agent. **W. R. Jones,** office manager, becomes assistant general freight agent. All will have headquarters at Houston.

Harold M. Grismore appointed electronics engineer—signal, San Francisco, Calif.

Nathan W. Stickney, assistant to signal engineer, San Francisco, retired Dec. 31, after more than 43 years with the SP.

TRANSPORTATION ASSOCIATION OF AMERICA. —Willis W. Bixby promoted to assistant vice president—research and simultaneously appointed secretary of the association's cooperative project, at Washington, D.C.

UNION PACIFIC.—Otis E. Skinner, general industrial agent, Denver, advanced to manager of properties there.

At Omaha, **John G. Duggan** named director of foreign trade; **E. L. Erickson,** freight traffic manager (sales and services); **William J. Sullivan,** freight traffic manager (rates); **H. J. Buring,** assistant freight traffic manager (rates). **Daniel P. Driscoll** appointed traffic manager, Detroit; **Edward W. Harris,** general traffic agent, Cleveland; **Paul H. Schmidt,** general freight and passenger agent, St. Joseph, Mo.; **Carl L. Elsasser,** general freight agent (rates), Los Angeles; **Wilbert W. Witmuss,** general freight agent (rates), Salt Lake City; **Richart T. Corson,** general freight agent (rates), Portland, Ore.

WESTERN MARYLAND.—William L. Weinacht, assistant western sales manager, Chicago, named district sales manager, Cleveland, Ohio. **Roy J. Peterson,** general agent, **Soo Line,** Pittsburgh, Pa., named to succeed Mr. Weinacht in Chicago.

John Krznaric, assistant manager—foreign commerce, New York, named western sales manager, Chicago, succeeding **Arthur Joseph Leamy,** retired after 40 years' service.

WINSTON-SALEM SOUTHBOUND. — Louis G. Grace, agent-yardmaster, **Norfolk & Western,** named vice president and general manager, W-SS (owned jointly by N&W and Atlantic Coast Line).

Mr. Grace succeeds **Fred S. Morrison,** elected president and general manager, **Norfolk & Portsmouth Belt Line** (Nov. 18, p. 61).

Mr. Grace also will serve as vice president and general manager, **High Point, Thomasville & Denton** (owned by W-SS).

Michael C. Shea
Simmons-Boardman

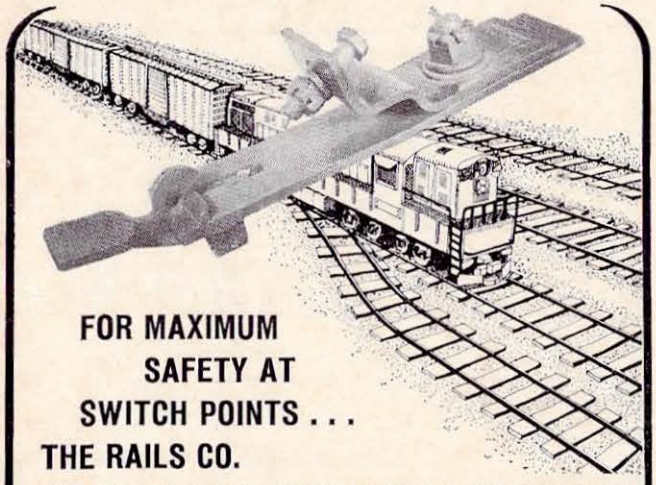
W. A. Cubbage
Simmons-Boardman

SUPPLY TRADE

Michael C. Shea, district manager, **Simmons-Boardman Publishing Corp.,** Pittsburgh, has been appointed manager, railway sales, western region. In his new position, Mr. Shea will assist **J. R. Thompson,** vice president, with advertising sales responsibilities on **Railway Age,** Railway Locomotives & Cars, Railway Track & Structures, Railway Signaling & Communications, International Railway Journal, and Plant Location. Regional headquarters are at 14 East Jackson Blvd., Chicago.

W. A. Cubbage, district manager, New York, has been advanced to regional sales manager, railway division, eastern region, Simmons-Boardman, New York.

M. Duane Compton, assistant director of purchasing, **American Steel Foundries,** has been named director of purchasing, succeeding **Frank H. Hanfelder,** retired



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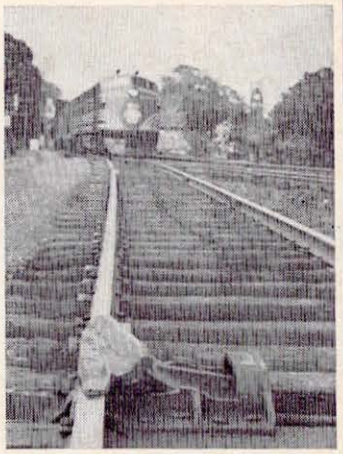

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Circle 9 on reader service card

John A. Mardick
Magnus Metal

Douglas Grymes
Koppers Co.

John A. Mardick, general production manager, **Magnus Metal Corp.,** a subsidiary of **National Lead Co.,** at New York, has been elected president, succeeding the late **Boetius H. Sullivan, Jr.** (RA, Jan. 2/9, p. 42).

Douglas Grymes has been elected executive vice president of **Koppers Co.,** Pittsburgh, Pa. Mr. Grymes was formerly vice president and general manager, Forest Products Division, and will continue to have general supervisor of forest products activity.

Eugene R. Birchler has been named vice president—operations of **CTI-Container Transport International,** New York. He was formerly vice president—operations of D. C. Andrews & Co.

The San Francisco office of the **Westinghouse Air Brake Division** of **Westinghouse Air Brake Co.** has moved to new quarters at 1850 Wells Fargo Bldg., 44 Montgomery Street, San Francisco, Calif. 94104.

Jack A. Palmore, manager of trip fleet operations, **Shippers' Car Line division** of **ACF Industries,** has been named manager of national sales administration, a newly created position. He will report to **Ralph L. Coffing,** director of sales of the division.

Preston Robards has joined **Peerless Equipment, Division of Poor & Company,** at Chicago, as development engineer. Mr. Russell has had over 18 years' experience as a mechanical engineer in the railway equipment supply field.

Herman C. Gildner, assistant regional sales manager, Transportation Division, **Adams & Westlake Co.,** Elkhart, Ind., has been promoted to regional sales manager, succeeding **Elmer R. Krause,** recently named sales manager of the division (RA, Nov. 7, p. 43).

William J. Auger, general sales manager, **Onan Division of Studebaker Corp.,** Minneapolis, has been named vice president—sales of that division.

Frederick S. Gregory, East Coast manager, **M-H Equipment Co.,** Duncanville, Tex., has been appointed to head sales efforts for the entire line of industrial material handling systems and products.

H. B. Allport has been named manager of technical services, marketing organization, Carbon Products Division, **Union Carbide Corp.,** Cleveland, Ohio.

SI Handling Systems Inc. announced appointments of **Materials Handling Products Corp.,** Syracuse, N.Y., and **Myers Truck and Caster Sales Co.,** Nashville, Tenn., as sales representatives.

James E. McDonald has been appointed western mid-west district manager, SI Handling Systems at Chicago.

DIVIDENDS DECLARED

CHICAGO, BURLINGTON & QUINCY.—$1.50, quarterly, payable March 16 to holders of record March 1.

ERIE & PITTSBURGH.—Guaranteed 87½¢, quarterly, paid Dec. 12 to holders of record Nov. 30.

GREAT NORTHERN.—75¢, quarterly, payable Feb. 1 to holders of record Jan. 13.

MAHONING COAL.—Preferred, 2½, semiannual, paid Jan. 1, 1967, to holders of record Dec. 27, 1966; common, $15, quarterly, $5, extra, both paid Dec. 30 to holders of record Dec. 27.

MAINE CENTRAL.—$1, special, paid Dec. 23 to holders of record Dec. 19.

MISSOURI PACIFIC.—Class A, $1.25; Class B, $5, both paid Dec. 30 to holders of record Dec. 16.

MONON.—Class B, 50¢, initial, payable Jan. 31 to holders of record Jan. 11.

NEW YORK CENTRAL.—78¢; 25¢, extra, both paid Dec. 27 to holders of record Dec. 19.

NORFOLK & WESTERN.—$1.50, quarterly; 50¢, extra, both paid Dec. 12 to holders of record Nov. 10.

NORTHERN CENTRAL.—$2, semiannual, paid Jan. 6 to holders of record Dec. 30.

NORTHERN PACIFIC.—65¢, quarterly, payable Jan. 31 to holders of record Jan. 10.

PENNSYLVANIA.—60¢, quarterly; 30¢, extra, both paid Dec. 22 to holders of record Dec. 5.

PIEDMONT & NORTHERN.—60¢, increased, paid Dec. 29 to holders of record Dec. 14.

PITTSBURGH & LAKE ERIE.—$1.50, quarterly; $1, extra, both paid Jan. 16 to holders of record Dec. 30.

PITTSBURGH & WEST VIRGINIA.—4¢, monthly, payable Jan. 31 and March 31 to holders of record Jan. 16 and March 15, respectively; 5¢ monthly, payable Feb. 28 and April 28 to holders of record Feb. 15 and April 14, respectively.

PITTSBURGH, FORT WAYNE & CHICAGO.—7%, preferred, $1.75, quarterly, paid Jan. 3, 1967, to holders of record Dec. 9, 1966.

SEABOARD AIR LINE.—45¢, quarterly, paid Dec. 27 to holders of record Dec. 16.

SOUTHERN.—70¢, common; 25¢, preferred; both paid Dec. 15 to holders of record Nov. 15.

SOUTHERN PACIFIC.—37½¢, quarterly, paid Dec. 12 to holders of record Nov. 28.

UNION PACIFIC.—45¢, quarterly, paid Jan. 3, 1967, to holders of record Dec. 5.

UNITED NEW JERSEY RR & CANAL.—$2.50, quarterly, payable April 10 to holders of record March 20.

WESTERN MARYLAND.—40¢, quarterly; 10¢, extra, both paid Dec. 30 to holders of record Dec. 22.

WHEELING & LAKE ERIE.—$1.43¾, quarterly, payable Feb. 1 to holders of record Jan. 6.

CURRENT PUBLICATIONS

UPDATING PUBLIC UTILITY REGULATION: ASSURING FAIR RATES AND FAIR RETURNS, by John Bauer, with the editorial assistance of Nathaniel Gold. 234 pages. Public Administration Service, 1313 East 60th St., Chicago, 60637. $7.50.

THE FINANCIAL COMMUNITY AND THE RAILROAD TREASURER. 91 pages, illustrations, charts. Railway Systems and Management Association, 163 East Walton St., Chicago, Ill. 60611. Flexible cover, $5.00; case binding, $8.25.

SIMULATION OF RAILROAD OPERATIONS. 203 pages, illustrations, charts, tables, maps. Railway Systems and Management Association, 163 East Walton Street, Chicago, Ill. 60611. Case binding, $8.25.

OBITUARY

Russell L. Dearmont, 75, retired president and chairman of the board, **Missouri Pacific,** died Jan. 12.

Melville Schaefer, who retired last May as purchasing agent, **New York Central,** died Jan. 9 at his home in New York.

O. M. Stevens, retired president and general manager, **American Refrigerator Transit Co.,** died Jan. 13 in Chicago.

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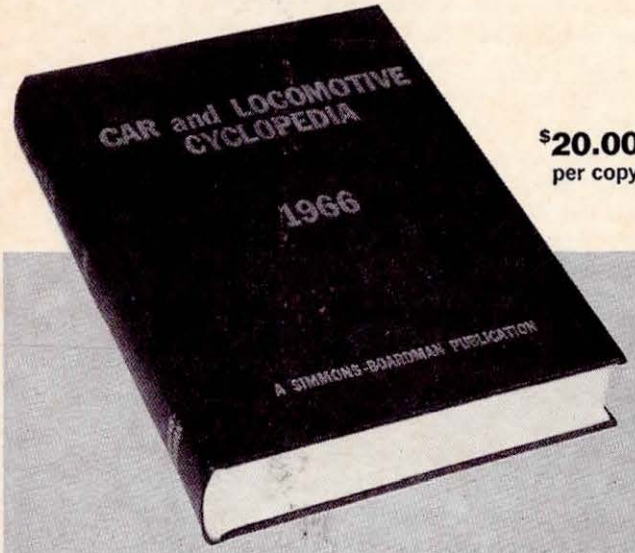

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VIEWPOINT

Grade-crossing safety: Another try

Americans, for some perverse reason, love to ignore admonitions. Few people "save wrappers to dispose of gum." Many don't "close cover before striking." Too many don't "stop, look and listen."

Somehow, the gum gets disposed of, wrapper or no wrapper. Somehow, matches get lit, and a singed finger is quickly forgotten. Somehow, most people who go breezing through rail-highway grade crossings get where they'e going—but the losers are big losers.

Compared to the annual death toll from highway accidents of all kinds, the grade-crossing toll is small. The grievous thing is that it's so almighty unnecessary.

Just about three years ago, the Interstate Commerce Commission filed the "bible" on grade-crossing problems, after a lengthy investigation. Chapter and verse, the document is an indictment of the driving habits of the American public—and, by indirection, an indictment of then-existing education and enforcement programs aimed at keeping people from killing themselves.

Some accidents, the Commission said, are indeed caused by mechanical failures—but "by far the main cause is the failure of the motor-vehicle operator to exercise due care and caution or to comply with the laws or regulations in the operation of his motor vehicle."

Why do they do it?

The ICC didn't find it hard to document this charge. What it, and just about everybody else, finds hard is to determine the "why" of the motor-vehicle operator's disdain for life, limb and law.

Without much doubt, many drivers are victimized by habit. "There was no train coming the last 99 times I went over this crossing," they think—"so there won't be one on the 100th pass." Somebody should point out to these people that even if the first 99 coin flips come up "heads," the odds on the 100th flip are still 50-50.

Also without much doubt, many drivers don't regard grade-crossing signals—from crossbucks to gates—as things that really have to be obeyed. They'll be reasonably gracious about obeying both traffic laws and regulations—stop-on-red, don't pass on the right, don't park next to a fire hydrant, and so forth—because they know they stand a pretty good chance of getting a traffic summons if they don't obey. But how many people ever got a ticket charging reckless driving across a railroad crossing?

Technology certainly offers some hope of improving the crossing-safety situation. But technology can be costly—and, as the ICC found, many drivers just don't take advantage of the protection afforded them. They barrel past the flashing lights, they ignore the warning gong, they drive around the lowered gates—and sometimes through them.

Paying for protection

The Commission recognized the need for more adequate protection, just as it recognized that paying for this protection is a public responsibility and not one that should be piled onto the railroads. But the Commission also recognized an overriding need for better driver education and stricter policing. Railroad men still recall, with horror, the checks made at one crossing just a few days after a train crew and a truck driver were cremated in a gasoline truck-train crash. Within a 24 hour period, the checkers saw 44 motor vehicles cross the tracks while warning lights were flashing and a train was closely approaching.

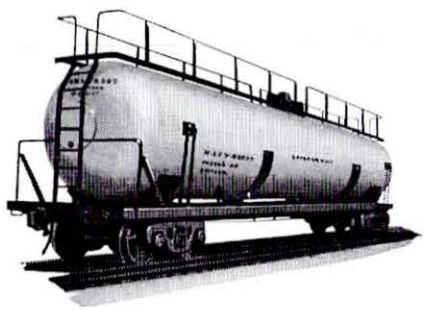
If education and enforcement are to be upgraded, purposeful action has to be taken. And great gobs of it have to be taken at the state and local level, where the problem and some of the best means of combatting it co-exist.

In the past, crossing-safety efforts have been spotty, poorly coordinated, lacking consistency and continuity. Now, this may be changing. New joint programs of rail management and the railway labor organizations are taking shape. They are intended to supplement existing efforts; they are aimed at obtaining compliance with safety regulations and at promoting more efficient enforcement.

The new programs will be concentrated at the local level, where men from rail management and from the organizations will be seeking the cooperation of all concerned, including governmental agencies, police, school officials, truck operators.

Cooperation, of course, is essential. Hopefully, it will be forthcoming when the railroad and brotherhood representatives ask it. Their goal is the saving of lives—and that's a pretty hard goal to argue with.

HOW MANY SICK DAYS WILL YOUR CARS TAKE THIS YEAR?



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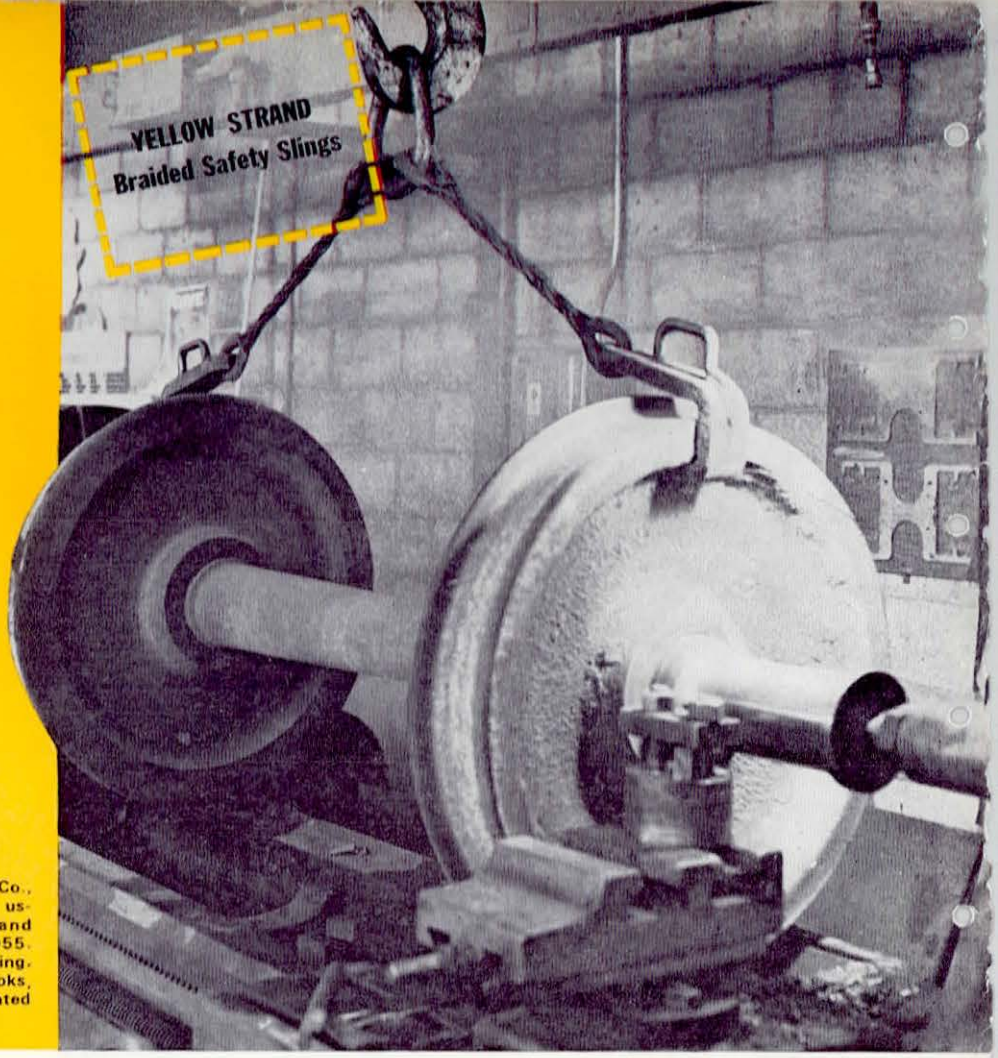

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